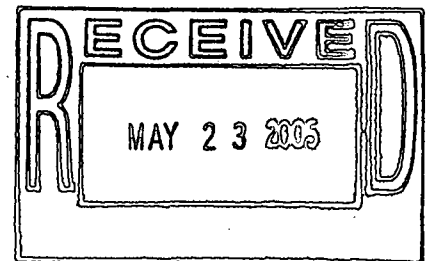


**Draft Closeout Report
for IHSS Group 800-3**

**UBC 883, PAC 800-1200, PAC 800-1201,
and Portion of IHSS 000-121,
including Tanks 25 and 26**

Approval received from the Colorado Department of Public Health and Environment
(.....)

Approval letter contained in the Administrative Record



May 2005

ADMIN RECORD

IA-A-002632

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Appendix A – Project Correspondence

ENCLOSURE

Complete Data Set Compact Disc – Accelerated Action Data

ACRONYMS

AL	action level
AR	Administrative Record
bgs	below ground surface
BZ	Buffer Zone
CA	Contamination Area
CD	compact disc
CAS	Chemical Abstracts Service
CDPHE	Colorado Department of Public Health and Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
CRA	Comprehensive Risk Assessment
cy	cubic yard
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
DQA	Data Quality Assessment
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
ER RSOP	Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation
ft	feet / foot
HPGe	high-purity germanium
HRR	Historical Release Report
IA	Industrial Area
IASAP	Industrial Area Sampling and Analysis Plan
IABZSAP	Industrial Area and Buffer Zone Sampling and Analysis Plan
IHSS	Individual Hazardous Substance Site
K-H	Kaiser-Hill Company, L.L.C.
LCS	laboratory control sample
LLMW	low level radioactive mixed waste
LLW	low level radioactive waste
µg/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
MS	matrix spike
MSD	matrix spike duplicate
nCi/g	nanocuries per gram
NA	not applicable
NFAA	No Further Accelerated Action
NLR	no longer representative
NPWL	New Process Waste Lines
OPWL	Original Process Waste Lines
PAC	potential area of concern

ACRONYMS

PARCCS	precision, accuracy, representativeness, completeness, comparability, and sensitivity
PCB	polychlorinated biphenyl
pCi/g	picocuries per gram
PCOC	potential contaminant of concern
POE	Point of Evaluation
QC	quality control
RCR	regulatory contact record
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS or Site	Rocky Flats Environmental Technology Site
RI/FS	remedial investigation/feasibility study
RL	reporting limit
RPD	relative percent difference
RSOP	RFCA Standard Operating Protocol
SAP	Sampling and Analysis Plan
SBD	sample beginning depth
SED	sample ending depth
SOR	sum of ratios
SSRS	Subsurface Soil Risk Screen
SVOC	semivolatile organic compound
SWD	Soil Water Database
TPH	total petroleum hydrocarbons
UBC	under building contamination
V&V	verification and validation
VOC	volatile organic compound
WEMS	Waste and Environmental Management System
WRW	wildlife refuge worker

EXECUTIVE SUMMARY

This Closeout Report summarizes accelerated action activities conducted at Individual Hazardous Substance Site (IHSS) Group 800-3, located at the Rocky Flats Environmental Technology Site (RFETS), Golden, Colorado. Activities were planned and executed in accordance with the Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP), IASAP Addendum #IA-04-06, the IA and Buffer Zone (BZ) SAP (IABZSAP) (DOE 2004a), and the Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol (RSOP) for Routine Soil Remediation Modification 1 (ER RSOP). Notification of the planned characterization and removal activities was provided in ER RSOP Notification #05-04.

Activities were conducted between August 2004 and April 2005, and included soil characterization and removal of structural features. The Building 883 slab, all equipment pads and concrete pits, air tunnels and connections to the plenum building, and foundation columns were removed. Building 883 Tanks T-25 and T-26 were previously removed. The remaining structures include deep column pads, a portion of the rolling mill foundation, four caissons under the eastern 2,000-ton press pit, and the tunnel between Buildings 883 and 881. New Process Waste Lines (NPWL) from Valve Vault 2 to Building 883 and from Valve Vault 2 to Valve Vault 1 were removed. NPWL from Valve Vault 2 to Valve Vault 3 was not removed, but clean-closed in accordance with the Resource Conservation and Recovery Act (RCRA). Valve Vault 2 was removed to greater than 4 ft bgs and grouted. All Original Process Waste Lines (OPWL) under Building 883 were removed as well as OPWL from approximately 4 ft east of Valve Vault 2 to Building 883. Remaining OPWL were grouted. Sanitary lines under and adjacent to Building 883 were removed as well as the lift station south of the building. Storm and roof drains under and adjacent to Building 883 were removed. The storm drain southeast of Building 883 remains. Residual contaminant concentrations in surface and subsurface soil are less than RFCA wildlife refuge worker (WRW) action levels (ALs). Results of the Data Quality Assessment confirm that the data collected and used are adequate for decision making.

No Further Accelerated Action (NFAA) is justified for soil at the IHSS Group 800-3 sites. All ER RSOP accelerated action goals and objectives were achieved. Removal activities conducted contributed to the protection of human health and the environment by removing potential sources of contamination. Best management practices were used during removal activities to minimize the potential spread of contamination. The removal activities minimized the need for short- and long-term institutional and engineering controls.

No IHSS Group-specific, near-term or long-term management techniques are required because of environmental conditions. Site access and excavation within the IHSS Group will continue to be controlled pending implementation of long-term controls. Controls that will be used as appropriate include prohibitions on construction of buildings in the IA, restrictions on excavation or other soil disturbance, and prohibitions on groundwater pumping.

The presence of residual radionuclides, metals, volatile organic compounds, and semivolatile organic compounds in soil will be evaluated in the Sitewide Comprehensive Risk Assessment (CRA), which is part of the Remedial Investigation/Feasibility Study (RI/FS) that will be conducted for the Site. Potential ecological risk will be evaluated in the Accelerated Action Ecological Screening Evaluation and the ecological risk assessment portion of the CRA. The need for and extent of any more general, long-term stewardship activities will also be evaluated

in the RI/FS. Institutional controls and other long-term stewardship requirements for the Site will ultimately be contained in the Corrective Action Decision/Record of Decision.

This Closeout Report and associated documentation will be retained as part of the Rocky Flats Administrative Record file. Approval of this Closeout Report constitutes regulatory agency concurrence that this IHSS Group is an NFAA site. An NFAA decision is justified based on the following:

- Soil characterization data;
- Results of the Subsurface Soil Risk Screen; and
- The stewardship evaluation.

This information and NFAA determination will be documented in the Fiscal Year 2005 Historical Release Report.

1.0 INTRODUCTION

This Closeout Report summarizes accelerated action activities conducted at Individual Hazardous Substance Site (IHSS) Group 800-3 at the Rocky Flats Environmental Technology Site (RFETS or Site) in Golden, Colorado. IHSS Group consists of the following IHSSs, Potential Areas of Concern (PACs), and Under Building Contamination (UBC) site:

- UBC 883 – Roll and Form Building;
- PAC 800-1200 – Valve Vault 2;
- IHSS 000-121 – Tank 25 – Original Process Waste Lines (OPWL) 750-Gallon Steel Tank;
- IHSS 000-121 – Tank 26 – OPWL 750-Gallon Steel Tank; and
- PAC 800-1201 – Radioactive Site South of Building 883

Figure 1 shows the general location of IHSS Group 800-3 at RFETS.

Accelerated action activities were planned and conducted in accordance with the Industrial Area (IA) Sampling and Analysis Plan (SAP) (IASAP) (DOE 2001), the IA and Buffer Zone (BZ) SAP (IABZSAP) (DOE 2004a), IASAP Addendum #IA-04-06 (DOE 2004b), and the Environmental Restoration (ER) Rocky Flats Cleanup Agreement (RFCA) Standard Operating Protocol (RSOP) for Routine Soil Remediation (ER RSOP) Modification 1 (DOE 2003a). Notification of the planned activities was provided in ER RSOP Notification #05-04 (DOE 2005), which was approved by the Colorado Department of Public Health and Environment (CDPHE) on February 1, 2005 (CDPHE 2005).

This Closeout Report includes the following:

- Historical and general site information;
- Deviations from IASAP Addendum #IA-04-06 (DOE 2004b) sampling specifications;
- Accelerated action characterization data presented in tables and shown on maps;
- Sums of ratios (SORs) and summary statistics for accelerated action characterization data;
- Evaluation of historical and accelerated action characterization data greater than wildlife refuge worker (WRW) action levels (ALs);
- Remedial action objectives and accelerated action goals;
- Description of accelerated action remediation and map of remediated areas, including excavation boundaries;
- Description of current site conditions, including residual soil contamination;
- Subsurface Soil Risk Screen (SSRS) and stewardship evaluation;
- Deviations from the ER RSOP;

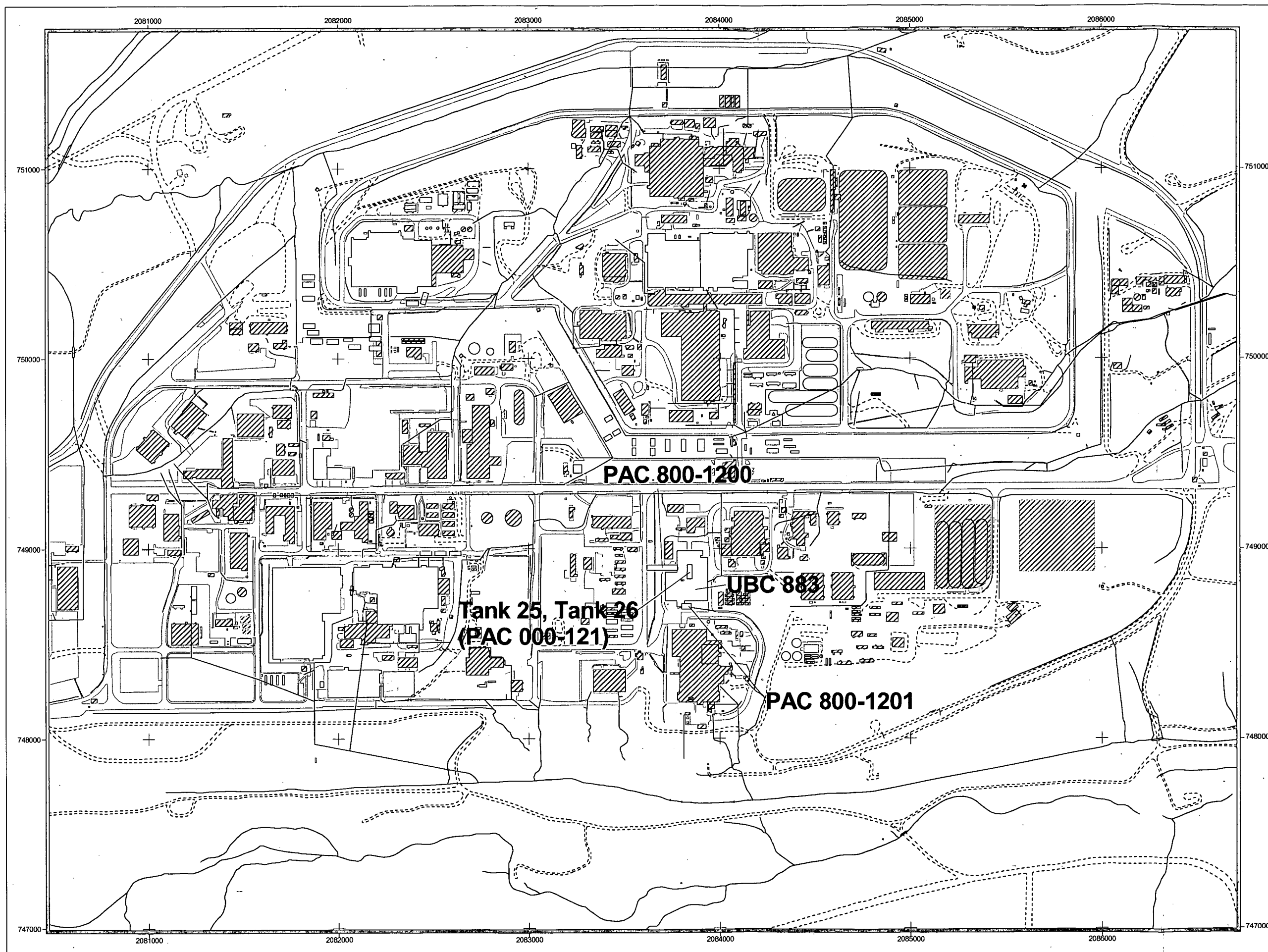
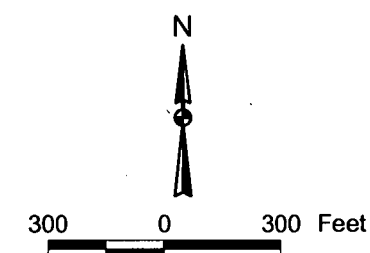


Figure 1
IHSS Group 800-3
Location

KEY

- UBC
- PAC
- Tank
- Demolished Structure
- Standing Structure
- Paved Road
- Dirt Road
- Stream, Ditch, or Drainage

Draft



Scale = 1:6,000

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared for:



Prepared by:



Date: April 2005

File: w:\projects\2004\800-3\closeout\800-3 closeout_091404.apr

- Table of no longer representative (NLR) sampling locations;
- Disposition of waste and site reclamation;
- Data Quality Assessment (DQA);
- Conclusions and reasons supporting a No Further Accelerated Action (NFAA) determination for IHSS Group 800-3;
- References, correspondence, and regulatory contact records (RCRs); and
- A compact disc (CD) containing the accelerated action data set for the project. The data are divided into two files, one containing real data and one containing quality control (QC) data, and are presented in a standardized format.

Approval of this Closeout Report constitutes regulatory agency concurrence with the NFAA proposed for IHSS Group 800-3. Accelerated action activities and the NFAA determination will be documented in the 2005 Annual Update of the Historical Release Report (HRR). This Closeout Report and associated documentation will be retained in the RFETS Administrative Record (AR).

2.0 SITE CHARACTERIZATION

IHSS Group 800-3 characterization information consists of historical knowledge and analytical data. Historical information for the IHSS Group was derived from previous studies (DOE 1992-2004, 2000, 2001, 2004b) and is summarized in Section 2.1. Analytical data for IHSS Group 800-3 (pre-accelerated action and accelerated action data) are summarized in Sections 2.2 and 2.3, respectively. A CD that contains the accelerated action data set, including real and QC data, is enclosed with this report.

2.1 Historical Information

The historical information on the IHSS Group 800-3 sites is presented below.

UBC 883, Roll and Form Building

Building 883 was a non-reactor nuclear facility constructed in 1956 to accommodate fabrication of enriched and depleted uranium parts used in weapons, specifically rolling and forming operations. Additions to Building 883 began in 1958 with the construction of storage and uranium component manufacturing spaces. In 1972, a valve room was added. From 1983 to 1985, additions were constructed to support the manufacturing of armor plates for M1A1 tanks. Starting in 1989, Building 883 operations began to diminish. In 1994, Building 883 operations ceased, and the building was closed.

Enriched uranium was processed in Building 883, Side B, from 1957 to 1964. These operations were moved to the Oak Ridge Reservation between 1964 and 1966. After 1967, metalworking operations in the building primarily involved depleted uranium, in Side A, and binary metal (uranium-238 alloyed). Some stainless steel and aluminum work also occurred in the building on a routine basis. Beryllium, copper, and other metals and alloys were occasionally worked on in the building. Beryllium-forming operations took place in Side A from 1962 to the mid-1980s.

Operations included rolling, shearing, forging, pressing, roller leveling, grinding, punching, bending, welding, heating, annealing, and cleaning. Metal was annealed in salt baths or in

furnaces with argon atmospheres. Vapor degreasing, grit blasting, water washing, and nitric acid etching were used during the cleaning process. Other processes conducted in Building 883 included inspection, non-destructive testing, weighing, shipping of fabricated parts, and receipt of raw materials used to fabricate, inspect, and clean the parts.

PAC 800-1200, Valve Vault 2

During a routine inspection of Valve Vault 2 on April 25, 1989, a leak in the south process transfer line was discovered. The line consisted of a 3-inch polyvinyl chloride Schedule-80 pipe inside a 6-inch polyethylene chase (containment) pipe and originated from the waste tanks in Building 883. Process waste consisted of nitric acid and/or rinsate water contaminated with depleted uranium. The waste was partially neutralized with potassium hydroxide before being discharged to Building 374 via Valve Vault 2. Total alpha activity measured 39,000,000 picocuries per liter.

Upon detection of the leak, discharge valves from the waste tanks in Building 883 were closed and locked out. Plumbing changes took place within 2 days after the leak was detected to ensure that no more transfers were made through the line. Hydrostatic testing of the inner line began on May 8, 1989, and continued through the month. Removal of the inner line began on May 29 and continued through June 2, 1989. Salt encrustations were found at the elbow where the process waste line exited the nitrad (a combination of hydrofluoric acid and ammonium) pickling operation room.

During the week of June 5 to 9, 1989, the secondary chase pipe was hydrostatically tested. When it was found to be leaking, the line was inspected by electronic visual imaging on June 15, 1989, to locate the leak.

OPWL (IHSS 000-121) Tanks 25 and 26, Two 750-Gallon Steel Tanks

These tanks were located within Building 883 and were removed prior to building decontamination and decommissioning. The tanks were not previously investigated.

PAC 800-1201, Radioactive Site South of Building 883

Contamination in the area between Building 883 and Building 881 is documented as early as 1958. After the plutonium fire in Building 776 in 1957, studies were initiated to determine the spread of contamination. One particular spot in the 800 Area with significant plutonium contamination was located 500 feet (ft) east of the 881 Building road and 500 ft north of Building 881 (prior to construction of Building 883).

In 1978, while conducting field surveys during excavation for a telephone line, readings above background were found approximately 30 ft south of Building 883. Radiometric soil surveys found two other hot spots: one at the northwestern corner of Building 889; and the other at the southeastern corner of Building 865. Documentation indicated the removal of contaminated soil in two small areas near Building 883 in April 1981.

2.2 Pre-Accelerated Action Characterization Data

Very limited sampling was conducted at IHSS Group 800-3 prior to this accelerated action. One sediment sample was collected north of the former Building 883, and all contaminant concentrations were significantly below WRW ALs (DOE 2004b). Surface soil at

Polychlorinated Biphenyl (PCB) Site #15 (PAC 800-1209), located along the northern side of former Building 883, was sampled, and based on analytical results, this PCB Site was designated as an NFAA site (DOE 2004c). Surface soil at PCB Site #17 (PAC 800-1207), located at the southeastern corner of former Building 883, was also sampled, and results indicated contamination around the old transformer pad. Based on analytical results, approximately 28 cubic yards (cy) of PCB-contaminated soil were excavated from the Site and shipped off-site for disposal. Based on this removal action, PCB Site #17 was designated as an NFAA site (DOE 2004c). PACs 800-1207 and 800-1209 are not addressed further in this Closeout Report.

2.3 Accelerated Action Characterization Soil Data

Based on historical information and data, accelerated action characterization needs were identified in IASAP Addendum #IA-04-06 (DOE 2004b), including potential contaminants of concern (PCOCs) and areas requiring further characterization. Accelerated action samples were collected and analyzed in accordance with the IASAP Addendum. Project sampling and analysis specifications, including media sampled, depth intervals, and analytes (PCOCs), are presented in Table 1. Deviations from the IASAP Addendum are also presented and explained in Table 1. A summary of all project sampling and analysis is presented in Table 2.

Several of the sampling locations specified in the IASAP Addendum could not be sampled because of the large amount of gravel (one-inch and smaller) located underneath much of Building 883. Much of the gravel extended down to bedrock. Instead the sampling team surveyed the area after the building slab was removed to identify areas with soil staining and collected soil samples at those locations. This change in the sampling approach is described in RCR dated March 17, 2005 (Appendix A). In addition, samples used to reduce radiological controls (downposting) are included in Tables 1 and 2.

Sampling locations and analytical results for IHSS Group 800-3 are presented on Figures 2 through 6 and in Table 3. Only results greater than background means plus two standard deviations or reporting limits (RLs) are shown. Plutonium-239/240 and uranium-234 activities based on high-purity germanium (HPGe) results (derived from americium-241 and uranium-238 gamma spectroscopy results, respectively) are shown in Table 3 in italics. All project data, retrieved from the RFETS Soil Water Database (SWD) on May 5, 2005, are provided on the enclosed CD. The CD contains standardized real and QC data (Chemical Abstracts Service [CAS] numbers, analyte names, and units).

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Table 1
IHSS Group 800-3 Sampling and Analysis Specifications and Deviations from the IASAP Addendum

Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
UBC 883								
CE37-004	748871.240	2083721.154	748867.810	2083723.830	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Biased location to target Rm 139 scrubber; field located inside building..
CE37-005	748872.472	2083732.822	748869.220	2083742.390	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Biased location to target Rm 139 chemical mixer; field located inside building.
CE37-006	748846.079	2083736.192	NA	NA	NA	NA	NA	Biased location to target Rm 139 Pit. Not sampled because of aggregate (RCR dated 3/17/2005).
CE37-007	748827.548	2083729.453	NA	NA	NA	NA	NA	Replaced by CF37-007; see below.
CE37-008	748832.866	2083736.649	748832.680	2083736.340	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Statistical sample; field located inside building. Depth below building floor.
CF36-005	748696.326	2083782.400	748699.590	2083785.110	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Statistical sample; field located inside building. Depth below building floor.
CF36-006	748750.272	2083830.085	748748.720	2083828.830	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Statistical sample; field located inside building. Depth below building floor.
CF36-007	748735.947	2083900.646	NA	NA	NA	NA	NA	Statistical sample. Not sampled because of aggregate (RCR dated 3/17/2005).
CF36-010	NA	NA	748736.568	2083894.066	Subsurface Soil	9.0 – 9.3	Radionuclides Metals SVOCs VOCs	Biased location added to target under eastern air tunnel.

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
CF37-007	748902.493	2083880.504	748824.340	2083731.340	Subsurface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Biased location (formerly CE37-007) to target Rm 138 pit. No pit in room; location moved 3 ft S and 2 ft E into bermed area (actual coordinates estimated from measurement inside building).
CF37-010	748871.349	2083774.939	748866.220	2083769.660	Surface Soil	0.0 – 0.4	Radionuclides Metals SVOCs VOCs	Biased sample to target Rm 139 plenum; moved 5 ft S & 5 ft W into plenum housing. Field located inside building. Depth below building floor.
CF37-011	748846.641	2083762.585	NA	NA	NA	NA	NA	Biased sample to target first interval beneath Rm 139 pit; moved to pit location. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-012	748764.653	2083865.350	748754.057	2083871.087	Subsurface Soil	20.0 – 22.0	Radionuclides Metals SVOCs VOCs	Biased sample to target first interval beneath Rm 105 pit; moved to induction furnace pit (10 ft S & 5.5 E). Depth below building floor.
CF37-013	748846.641	2083917.014	748844.890	2083933.290	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Biased sample to target first interval beneath Rm 104 pit; field located inside building..
CF37-014	748940.421	2083897.921	748949.080	2083903.580	Subsurface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Biased sample to target first interval beneath Rm 109 process drain pit; because there is no Rm 109 moved location to Rm 104 pit (field located inside building) Sampled beneath pit.
CF37-015	748893.812	2083800.209	NA	NA	NA	NA	NA	Biased sample to target Rm 102 ball mill pit. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-016	748907.289	2083842.326	NA	NA	NA	NA	NA	Biased sample to target Rm 109 pit near New Process Waste Lines (NPWL). Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-017	748842.148	2083803.017	748842.430	2083823.290	Subsurface Soil	17.0 – 17.5	Radionuclides Metals SVOCs VOCs	Biased sample to target Rm 102 ball mill pit; field located inside building.
CF37-018	748823.055	2083878.828	NA	NA	NA	NA	NA	Biased location to target Rm 105 machine pit. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-019	748851.695	2083880.512	NA	NA	NA	NA	NA	Biased location to target Rm 105 machine pit. Not sampled because of aggregate (RCR dated 3/17/2005).

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
CF37-020	748921.328	2083875.458	NA	NA	NA	NA	NA	Biased location to target Rm 1 pit and OPWL. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-021	748886.811	2083784.335	NA	NA	NA	NA	NA	Statistical location. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-022	748940.756	2083832.021	NA	NA	NA	NA	NA	Statistical location. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-023	748764.596	2083759.525	748761.350	2083752.800	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Statistical location; field located inside building. Depth below building floor.
CF37-024	748818.541	2083807.210	748820.390	2083812.310	Subsurface Soil	17.0 – 17.5	Radionuclides Metals SVOCs VOCs	Statistical location; field located inside building. Sampled 17 ft below fill. Depth below building floor.
CF37-025	748872.486	2083854.896	NA	NA	NA	NA	NA	Biased location to target Rm 1 pit. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-026	748926.431	2083902.581	748926.050	2083905.600	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Statistical location; field located inside building. Depth below building floor.
CF37-027	748804.217	2083877.771	NA	NA	NA	NA	NA	Statistical location. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-028	748858.162	2083925.456	748858.850	2083925.950	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Statistical sample; field located inside building. Depth below building floor.
CF37-034	NA	NA	748867.035	2083920.815	Subsurface Soil	10.0 – 12.0	Radionuclide Metals SVOCs VOCs	Biased location added to target soil beneath Rm 135 pit.
CF37-035	NA	NA	748933.326	2083832.429	Subsurface Soil	22.0 – 24.0	Radionuclide Metals SVOCs VOCs	Biased location added in north basement.
CF37-036	NA	NA	748805.867	2083839.797	Subsurface Soil	22.0 – 24.0	Radionuclide Metals SVOCs VOCs	Biased location added in south basement.

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
CF38-006-01	748965.691	2083902.975	NA	NA	NA	NA	NA	Biased location to target first interval under Rm 100 pit. Listed as CF38-006 in SAP Addendum. Not sampled because of aggregate (RCR dated 3/17/2005).
CG37-001	NA	NA	748822.555	2083934.590	Surface Soil	0.0 – 0.3	Radionuclides PCBs	Sample location added to target PCB pit. Depth below building floor.
CG37-002	NA	NA	748825.493	2083923.345	Surface Soil	0.0 – 0.3	Radionuclides PCBs	Sample location added to target PCB pit. Depth below building floor.
CG37-003	NA	NA	748843.295	2083922.949	Surface Soil	0.0 – 0.3	Radionuclides PCBs	Sample location added to target PCB pit. Depth below building floor.
CG37-004	NA	NA	748849.386	2083934.064	Surface Soil	0.0 – 0.3	Radionuclides PCBs	Sample location added to target PCB pit. Depth below building floor.
IHSS 000-121 Tanks 25 and 26								
CF37-002	748912.500	2083834.004	NA	NA	NA	NA	NA	Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-003	748911.322	2083854.017	NA	NA	NA	NA	NA	Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-004	748840.688	2083833.415	NA	NA	NA	NA	NA	Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-005	748840.688	2083854.017	NA	NA	NA	NA	NA	Not sampled because of aggregate (RCR dated 3/17/2005).
OPWL								
CE37-002	NA	NA	748927.559	2083719.109	Surface Soil Subsurface Soil	0.0 – 0.5 2.4 – 4.5 4.5 – 6.5 6.5 – 8.5 8.5 – 10.5	Radionuclides Metals SVOCs VOCs	Biased location to target OPWL joint.
CF37-006	748840.100	2083881.093	NA	NA	NA	NA	NA	Biased location at OPWL joint. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-029	748902.493	2083880.504	NA	NA	NA	NA	NA	Formerly CF37-007 but code was previously used (see above). Biased location to target OPWL joint. Not sampled because of aggregate (RCR dated 3/17/2005).

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
CE38-000	NA	NA	749016.083	2083667.789	Subsurface Soil	2.5 – 4.5	Radionuclides Metals SVOCs	Sampling location to target OPWL
CE38-001-01	NA	NA	749013.729	2083669.087	Subsurface Soil	3.0 – 3.5	Radionuclides Metals VOCs	Sampling location to target OPWL
CE38-003	NA	NA	748921.225	2083665.970	Subsurface Soil	3.5 – 4.0	Radionuclides Metals VOCs	Sampling location to target OPWL
NPWL and PAC 800-1200 Valve Vault 2								
CE36-000	NA	NA	748706.828	2083696.691	Subsurface Soil	6.0 – 6.5	Radionuclides Metals	Biased location added to target NPWL.
CE37-003	748896.018	2083698.033	748883.176	2083699.002	Subsurface Soil	20.0 – 22.0	Radionuclides Metals SVOCs VOCs	Biased location to target first native soil interval beneath valve vault; moved several times due to sampling refusal; final location was 13 ft S of planned location. Estimated depth to vault is 15 ft bgs; there is a 2-3 ft sump present and about 2-3 ft of fill. Sampled from 20-22 ft from present ground surface.
CE37-009	NA	NA	748883.468	2083698.825	Subsurface Soil	8.0 – 9.5	Radionuclides Metals	Sampling location to target NPWL.
CE37-010	NA	NA	748792.913	2083695.364	Subsurface Soil	6.0 – 7.0	Radionuclides Metals	Sampling location to target NPWL.
CE37-011	NA	NA	748854.008	2083702.660	Subsurface Soil	0.0 – 0.1	Radionuclides	Sampling location to sample residue that spilled from NPWL onto sidewalk.
CF37-008	748894.252	2083773.965	NA	NA	NA	NA	NA	Biased location to target suspected leak at NPWL connection to building. Not sampled because of aggregate (RCR dated 3/17/2005).
CF37-009	748892.487	2083738.648	748896.138	2083738.837	Subsurface Soil	4.5 – 6.5	Radionuclides Metals SVOCs VOCs	Biased location to target NPWL; moved 4 ft N to get closer to target. Planned depth was 14.5 - 16.5 ft.
CF37-030	NA	NA	748906.485	2083792.508	Subsurface Soil	12.0 – 12.5	Radionuclides Metals	Biased location to target NPWL.

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
PAC 800-1201 Radioactive Site South of Building								
CF36-001	748683.528	2083805.750	748686.36	2083808.409	Surface Soil	0.0 – 0.5	Radionuclides	Biased location; moved 4 ft NE because of sewage lines. Sampled under 0.5 ft of concrete. No change in media or analytes.
CF36-002	748705.895	2083845.776	748705.924	2083845.804	Surface Soil	0.0 – 0.5	Radionuclides	Biased location; no significant change in location. Sampled under 0.5 ft of concrete. No change in media or analytes.
CF36-003	748682.351	2083846.953	748686.795	2083846.773	Surface Soil	0.0 – 0.5	Radionuclides	Biased location; moved 4.5 ft N because of sewage lines. Sampled under 0.5 ft of concrete. No change in media or analytes.
CF36-004	748705.895	2083821.054	748705.895	2083821.054	Surface Soil	0.0 – 0.5	Radionuclides	Biased location; no significant change in location. Sampled under 0.3 ft of concrete.
Building 883 Storage Area								
CE37-000	748880.714	2083719.223	748880.755	2083719.196	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Biased location; no significant change in location. Added VOCs because sample was beneath concrete pad.
CE37-001	748926.038	2083718.046	748926.035	2083718.099	Surface Soil	0.0 – 0.5	Radionuclide Metals SVOCs	Biased location; no significant change in location. Sample below 0.3 ft of fill.
CF37-000	748880.714	2083769.844	748878.871	2083770.454	Surface Soil	0.0 – 0.5	Radionuclides Metals VOCs	Biased location; moved 1 ft S due to abandoned conduit. Sampled below 0.8 ft of concrete and road base.
CF37-001	748925.449	2083769.844	748925.414	2083769.790	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs VOCs	Biased location; no significant change in location. VOCs added because sample was beneath concrete.
CF38-001-01	748982.545	2083768.667	748982.591	2083768.672	Surface Soil	0.0 – 0.5	Radionuclides Metals SVOCs	Biased location; listed as CF38-001 in SAP Addendum. No significant change in location.
PCB Site 15								
CF38-002	748993.140	2083798.687	NA	NA	NA	NA	NA	Not sampled – NFAA (5/6/2004).
CF38-003	748992.551	2083818.700	NA	NA	NA	NA	NA	Not sampled – NFAA (5/6/2004).

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
CF38-004	748993.729	2083866.966	NA	NA	NA	NA	NA	Not sampled – NFAA (5/6/2004).
CF38-005	748992.551	2083890.511	NA	NA	NA	NA	NA	Not sampled – NFAA (5/6/2004).
Miscellaneous Samples								
CE36-002	NA	NA	748743.658	2083697.303	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE36-003	NA	NA	748690.682	2083693.781	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE36-004	NA	NA	748745.701	2083669.538	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE36-005	NA	NA	748693.387	2083668.879	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-012	NA	NA	748957.312	2083722.691	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-013	NA	NA	748910.482	2083709.556	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-014	NA	NA	748875.141	2083703.931	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-015	NA	NA	748831.924	2083696.684	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-016	NA	NA	748788.045	2083699.021	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-017	NA	NA	748962.710	2083694.321	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-018	NA	NA	748911.844	2083678.676	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-019	NA	NA	748873.493	2083672.642	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-020	NA	NA	748832.593	2083672.102	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-021	NA	NA	748789.041	2083671.102	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
CE37-022	NA	NA	748788.499	2083770.929	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-023	NA	NA	748827.503	2083749.195	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-024	NA	NA	748875.425	2083788.709	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-025	NA	NA	748930.314	2083765.353	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-026	NA	NA	748961.822	2083799.366	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE37-027	NA	NA	749041.854	2083730.527	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE38-006	NA	NA	749043.479	2083774.711	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE38-007	NA	NA	749010.371	2083759.563	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE38-008	NA	NA	749046.502	2083757.338	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE38-009	NA	NA	749009.983	2083738.176	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE38-010	NA	NA	749054.349	2083727.852	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CE38-011	NA	NA	749016.499	2083714.134	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF36-008	NA	NA	748686.568	2083729.401	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF36-009	NA	NA	748685.501	2083754.543	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF36-011	NA	NA	749013.505	2083776.000	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF36-012	NA	NA	749028.035	2083831.758	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF36-013	NA	NA	749008.878	2083877.247	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
CF36-014	NA	NA	749026.656	2083933.657	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF36-015	NA	NA	748958.481	2083891.441	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF36-016	NA	NA	748912.272	2083914.140	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF36-017	NA	NA	748865.263	2083872.927	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-033	NA	NA	748990.430	2083866.600	Subsurface Soil	5.0 – 5.5	TPH	Biased location added to target oil stain.
CF37-037	NA	NA	748654.234	2083855.462	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-038	NA	NA	748670.003	2083850.183	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-039	NA	NA	748689.089	2083846.183	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-040	NA	NA	748707.629	2083844.124	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-041	NA	NA	748658.788	2083884.343	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-042	NA	NA	748678.970	2083885.230	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-043	NA	NA	748698.973	2083884.287	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-044	NA	NA	748721.493	2083880.286	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-045	NA	NA	748686.690	2083914.725	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-046	NA	NA	748706.059	2083909.478	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-047	NA	NA	748727.967	2083911.542	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-048	NA	NA	748667.853	2083953.910	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
CF37-049	NA	NA	748696.023	2083950.055	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-050	NA	NA	748720.915	2083950.262	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-051	NA	NA	748739.917	2083940.787	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-052	NA	NA	748673.763	2083984.114	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-053	NA	NA	748704.494	2083982.701	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-054	NA	NA	748731.084	2083982.071	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-055	NA	NA	748753.434	2083978.049	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF37-056	NA	NA	748662.315	2083914.032	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF38-011-01	NA	NA	749075.160	2083932.905	Surface Soil	0.0-0.5	Radionuclides	Biased location, NE corner of B883 outside posted Contamination Area (CA), added where water from the CA spilled onto soil during accelerated action.
CF38-012	NA	NA	748832.143	2083905.938	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF38-028	NA	NA	748788.464	2083870.236	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF38-029	NA	NA	748750.363	2083903.888	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF38-030	NA	NA	748719.318	2083878.562	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF38-031	NA	NA	748693.165	2083821.605	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF38-032	NA	NA	748726.307	2083774.918	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting
CF38-033	NA	NA	748733.752	2083736.005	Surface Soil	0.0 – 0.3	Radionuclides	Added location for downposting

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Location Code	Proposed Northing	Proposed Easting	Actual Northing	Actual Easting	Actual Media	Actual Depth Interval (ft)	Actual Analytes	Comment
CG37-000	NA	NA	748837.156	2083905.123	Surface Soil	0.0 – 0.5	VOC	Biased location added to target liquid spill during accelerated action.
CG37-006	NA	NA	748833.332	2083905.488	Subsurface Soil	5.0 – 5.3	Radionuclides Metals VOCs	Biased location to target odor encountered during accelerated action..

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Table 2
IHSS Group 800-3 Sampling and Analysis Summary

Category	Planned Total	Actual Total
Number of Sampling Locations	51	108
Number of Samples	63	112
Number of Radionuclide Analyses	63	127
Number of Metal Analyses	59	39
Number of Volatile Organic Compound (VOC) Analyses	50	33
Number of Semi-Volatile Organic Compound (SVOC) Analyses	59	31
Number of Polychlorinated Biphenyls (PCBs) Analyses	4	4
Number of Total Petroleum Hydrocarbons (TPH) Analyses	0	1

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Figure 5
IHSS Group 800-3
Sampling Results Greater
than Background Means
Plus Two Standard Deviations
or Reporting Limits,
Outside UBC 883, Southwest

KEY

- Greater than background means or RLs, less than WRW ALs
- Less than background means or RLs

NPWL

OPWL

Valve vault

PAC

Tank

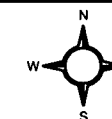
UBC

Building

Demolished

Standing

DRAFT



100 0 100 Feet

Scale = 1: 1250

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Date: 05.09.05

Prepared by:

RADMS

Prepared for:



KAISER-HILL
COMPANY

File: W:\Projects\Fy2004\800-3\Closeout\800-3_closeout_091404.apr

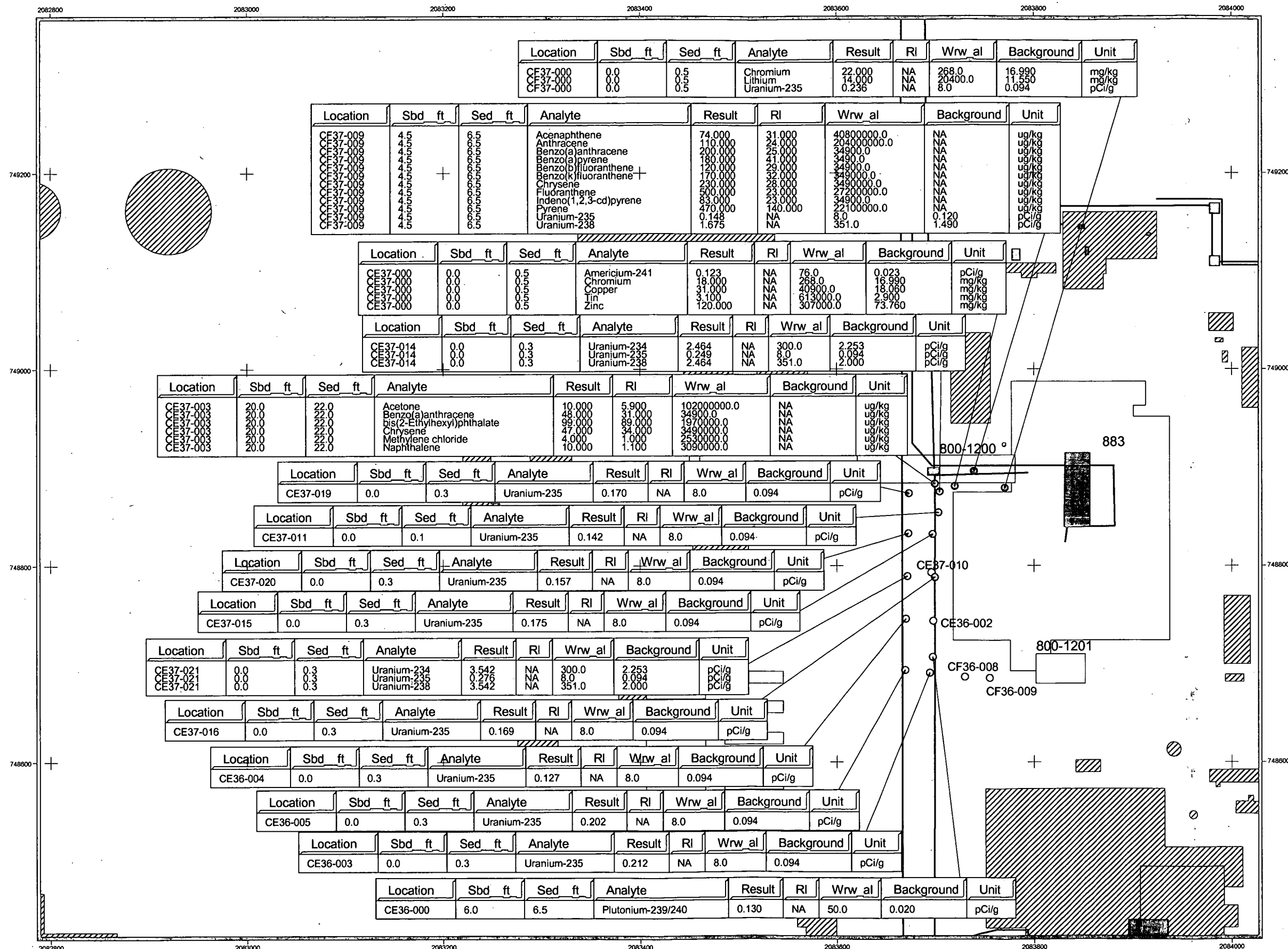


Table 3
IHSS Group 800-3 Accelerated Action Soil Characterization Data

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRW AL	Unit
CE36-000	748706.828	2083696.691	6.0	6.5	Plutonium-239/240	0.130	0.020	NA	50	pCi/g
CE36-003	748690.682	2083693.781	0.0	0.3	Uranium-235	0.212	0.094	NA	8	pCi/g
CE36-004	748745.701	2083669.538	0.0	0.3	Uranium-235	0.127	0.094	NA	8	pCi/g
CE36-005	748693.387	2083668.879	0.0	0.3	Uranium-235	0.202	0.094	NA	8	pCi/g
CE37-000	748880.755	2083719.196	0.0	0.5	Americium-241	0.123	0.023	NA	76	pCi/g
CE37-000	748880.755	2083719.196	0.0	0.5	Chromium	18.000	16.990	NA	268	mg/kg
CE37-000	748880.755	2083719.196	0.0	0.5	Copper	31.000	18.060	NA	40900	mg/kg
CE37-000	748880.755	2083719.196	0.0	0.5	Tin	3.100	2.900	NA	613000	mg/kg
CE37-000	748880.755	2083719.196	0.0	0.5	Zinc	120.000	73.760	NA	307000	mg/kg
CE37-001	748926.035	2083718.099	0.0	0.5	Americium-241	0.149	0.023	NA	76	pCi/g
CE37-001	748926.035	2083718.099	0.0	0.5	Anthracene	43.000	NA	26.000	204000000	ug/kg
CE37-001	748926.035	2083718.099	0.0	0.5	Benzo(a)anthracene	130.000	NA	27.000	34900	ug/kg
CE37-001	748926.035	2083718.099	0.0	0.5	Benzo(a)pyrene	130.000	NA	44.000	3490	ug/kg
CE37-001	748926.035	2083718.099	0.0	0.5	Benzo(b)fluoranthene	210.000	NA	31.000	34900	ug/kg
CE37-001	748926.035	2083718.099	0.0	0.5	Chromium	20.000	16.990	NA	268	mg/kg
CE37-001	748926.035	2083718.099	0.0	0.5	Chrysene	150.000	NA	30.000	3490000	ug/kg
CE37-001	748926.035	2083718.099	0.0	0.5	Fluoranthene	300.000	NA	25.000	27200000	ug/kg
CE37-001	748926.035	2083718.099	0.0	0.5	Pyrene	270.000	NA	150.000	22100000	ug/kg
CE37-001	748926.035	2083718.099	0.0	0.5	Zinc	120.000	73.760	NA	307000	mg/kg
CE37-002	748927.559	2083719.109	0.0	0.5	Benzo(a)anthracene	80.000	NA	27.000	34900	ug/kg
CE37-002	748927.559	2083719.109	0.0	0.5	bis(2-Ethylhexyl)phthalate	110.000	NA	79.000	1970000	ug/kg
CE37-002	748927.559	2083719.109	0.0	0.5	Chromium	19.000	16.990	NA	268	mg/kg
CE37-002	748927.559	2083719.109	0.0	0.5	Chrysene	83.000	NA	31.000	3490000	ug/kg
CE37-002	748927.559	2083719.109	0.0	0.5	Ethylbenzene	71.400	NA	5.420	4250000	ug/kg
CE37-002	748927.559	2083719.109	0.0	0.5	Fluoranthene	71.000	NA	25.000	27200000	ug/kg
CE37-002	748927.559	2083719.109	0.0	0.5	Iron	28000.000	18037.000	NA	307000	mg/kg
CE37-002	748927.559	2083719.109	0.0	0.5	Xylene	541.000	NA	10.800	2040000	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Acenaphthene	42.000	NA	34.000	40800000	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Anthracene	48.000	NA	26.000	204000000	ug/kg

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Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRW AL	Unit
CE37-002	748927.559	2083719.109	2.5	4.5	Benzo(a)anthracene	140.000	NA	27.000	34900	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Benzo(a)pyrene	140.000	NA	44.000	3490	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Benzo(b)fluoranthene	110.000	NA	32.000	34900	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Benzo(k)fluoranthene	130.000	NA	35.000	349000	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	bis(2-Ethylhexyl)phthalate	88.000	NA	80.000	1970000	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Chrysene	170.000	NA	31.000	3490000	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Fluoranthene	320.000	NA	25.000	27200000	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Indeno(1,2,3-cd)pyrene	58.000	NA	25.000	34900	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Pyrene	290.000	NA	150.000	22100000	ug/kg
CE37-002	748927.559	2083719.109	2.5	4.5	Uranium-235	0.141	0.120	NA	8	pci/g
CE37-002	748927.559	2083719.109	4.5	6.5	Benzo(a)anthracene	87.000	NA	29.000	34900	ug/kg
CE37-002	748927.559	2083719.109	4.5	6.5	Benzo(a)pyrene	79.000	NA	47.000	3490	ug/kg
CE37-002	748927.559	2083719.109	4.5	6.5	Benzo(b)fluoranthene	61.000	NA	34.000	34900	ug/kg
CE37-002	748927.559	2083719.109	4.5	6.5	Benzo(k)fluoranthene	71.000	NA	38.000	349000	ug/kg
CE37-002	748927.559	2083719.109	4.5	6.5	bis(2-Ethylhexyl)phthalate	120.000	NA	85.000	1970000	ug/kg
CE37-002	748927.559	2083719.109	4.5	6.5	Chrysene	110.000	NA	33.000	3490000	ug/kg
CE37-002	748927.559	2083719.109	4.5	6.5	Fluoranthene	200.000	NA	27.000	27200000	ug/kg
CE37-002	748927.559	2083719.109	4.5	6.5	Pyrene	170.000	NA	160.000	22100000	ug/kg
CE37-002	748927.559	2083719.109	6.5	8.5	Benzo(a)anthracene	46.000	NA	28.000	34900	ug/kg
CE37-002	748927.559	2083719.109	6.5	8.5	Chrysene	52.000	NA	31.000	3490000	ug/kg
CE37-002	748927.559	2083719.109	6.5	8.5	Fluoranthene	82.000	NA	25.000	27200000	ug/kg
CE37-002	748927.559	2083719.109	6.5	8.5	Tetrachloroethene	13.600	NA	5.570	615000	ug/kg
CE37-002	748927.559	2083719.109	6.5	8.5	Uranium-234	4.188	2.640	NA	300	pci/g
CE37-002	748927.559	2083719.109	6.5	8.5	Uranium-235	0.212	0.120	NA	8	pci/g
CE37-002	748927.559	2083719.109	6.5	8.5	Uranium-238	4.188	1.490	NA	351	pci/g
CE37-002	748927.559	2083719.109	8.5	10.5	Uranium-234	4.329	2.640	NA	300	pci/g
CE37-002	748927.559	2083719.109	8.5	10.5	Uranium-235	0.270	0.120	NA	8	pci/g
CE37-002	748927.559	2083719.109	8.5	10.5	Uranium-238	4.329	1.490	NA	351	pci/g
CE37-003	748883.176	2083699.002	20.0	22.0	Acetone	10.000	NA	5.900	102000000	ug/kg
CE37-003	748883.176	2083699.002	20.0	22.0	Benzo(a)anthracene	48.000	NA	31.000	34900	ug/kg
CE37-003	748883.176	2083699.002	20.0	22.0	bis(2-Ethylhexyl)phthalate	99.000	NA	89.000	1970000	ug/kg
CE37-003	748883.176	2083699.002	20.0	22.0	Chrysene	47.000	NA	34.000	3490000	ug/kg
CE37-003	748883.176	2083699.002	20.0	22.0	Methylene chloride	4.000	NA	1.000	2530000	ug/kg

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Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRW/AL	Unit
CE37-003	748883.176	2083699.002	20.0	22.0	Naphthalene	10.000	NA	1.100	3090000	ug/kg
CE37-004	748867.810	2083723.830	0.0	0.5	Antimony	0.550	0.470	NA	409	mg/kg
CE37-004	748867.810	2083723.830	0.0	0.5	Cobalt	14.000	10.910	NA	1550	mg/kg
CE37-004	748867.810	2083723.830	0.0	0.5	Copper	62.000	18.060	NA	40900	mg/kg
CE37-004	748867.810	2083723.830	0.0	0.5	Iron	30000.000	18037.000	NA	307000	mg/kg
CE37-004	748867.810	2083723.830	0.0	0.5	Lithium	16.000	11.550	NA	20400	mg/kg
CE37-004	748867.810	2083723.830	0.0	0.5	Manganese	650.000	365.080	NA	3480	mg/kg
CE37-004	748867.810	2083723.830	0.0	0.5	Nickel	18.000	14.910	NA	20400	mg/kg
CE37-004	748867.810	2083723.830	0.0	0.5	Strontium	130.000	48.940	NA	613000	mg/kg
CE37-004	748867.810	2083723.830	0.0	0.5	Uranium-234	2.473	2.253	NA	300	pCi/g
CE37-004	748867.810	2083723.830	0.0	0.5	Uranium-235	0.239	0.094	NA	8	pCi/g
CE37-004	748867.810	2083723.830	0.0	0.5	Uranium-238	2.473	2.000	NA	351	pCi/g
CE37-004	748867.810	2083723.830	0.0	0.5	Vanadium	64.000	45.590	NA	7150	mg/kg
CE37-005	748869.220	2083742.390	0.0	0.5	Cobalt	11.000	10.910	NA	1550	mg/kg
CE37-005	748869.220	2083742.390	0.0	0.5	Copper	53.000	18.060	NA	40900	mg/kg
CE37-005	748869.220	2083742.390	0.0	0.5	Iron	24000.000	18037.000	NA	307000	mg/kg
CE37-005	748869.220	2083742.390	0.0	0.5	Manganese	430.000	365.080	NA	3480	mg/kg
CE37-005	748869.220	2083742.390	0.0	0.5	Strontium	120.000	48.940	NA	613000	mg/kg
CE37-005	748869.220	2083742.390	0.0	0.5	Uranium-235	0.144	0.094	NA	8	pCi/g
CE37-005	748869.220	2083742.390	0.0	0.5	Vanadium	52.000	45.590	NA	7150	mg/kg
CE37-008	748832.680	2083736.340	0.0	0.5	bis(2-Ethylhexyl)phthalate	250.000	NA	74.000	1970000	ug/kg
CE37-008	748832.680	2083736.340	0.0	0.5	Cobalt	11.000	10.910	NA	1550	mg/kg
CE37-008	748832.680	2083736.340	0.0	0.5	Copper	59.000	18.060	NA	40900	mg/kg
CE37-008	748832.680	2083736.340	0.0	0.5	Iron	28000.000	18037.000	NA	307000	mg/kg
CE37-008	748832.680	2083736.340	0.0	0.5	Lithium	12.000	11.550	NA	20400	mg/kg
CE37-008	748832.680	2083736.340	0.0	0.5	Manganese	590.000	365.080	NA	3480	mg/kg
CE37-008	748832.680	2083736.340	0.0	0.5	Nickel	18.000	14.910	NA	20400	mg/kg
CE37-008	748832.680	2083736.340	0.0	0.5	Strontium	100.000	48.940	NA	613000	mg/kg
CE37-008	748832.680	2083736.340	0.0	0.5	Uranium-235	0.173	0.094	NA	8	pCi/g
CE37-008	748832.680	2083736.340	0.0	0.5	Vanadium	59.000	45.590	NA	7150	mg/kg
CE37-011	748854.008	2083702.660	0.0	0.1	Uranium-235	0.142	0.094	NA	8	pCi/g

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Location	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRWAL	Unit
CE37-012	748957.312	2083722.691	0.0	0.3	Plutonium-239/240	0.182	0.066	NA	50	pCi/g
CE37-013	748910.482	2083709.556	0.0	0.3	Uranium-235	0.141	0.094	NA	8	pCi/g
CE37-013	748910.482	2083709.556	0.0	0.3	Uranium-238	2.362	2.000	NA	351	pCi/g
CE37-014	748875.141	2083703.931	0.0	0.3	Uranium-234	2.464	2.253	NA	300	pCi/g
CE37-014	748875.141	2083703.931	0.0	0.3	Uranium-235	0.249	0.094	NA	8	pCi/g
CE37-014	748875.141	2083703.931	0.0	0.3	Uranium-238	2.464	2.000	NA	351	pCi/g
CE37-015	748831.924	2083696.684	0.0	0.3	Uranium-235	0.175	0.094	NA	8	pCi/g
CE37-016	748788.045	2083699.021	0.0	0.3	Uranium-235	0.169	0.094	NA	8	pCi/g
CE37-018	748911.844	2083678.676	0.0	0.3	Uranium-235	0.122	0.094	NA	8	pCi/g
CE37-019	748873.493	2083672.642	0.0	0.3	Uranium-235	0.170	0.094	NA	8	pCi/g
CE37-020	748832.593	2083672.102	0.0	0.3	Uranium-235	0.157	0.094	NA	8	pCi/g
CE37-021	748789.041	2083671.102	0.0	0.3	Uranium-234	3.542	2.253	NA	300	pCi/g
CE37-021	748789.041	2083671.102	0.0	0.3	Uranium-235	0.276	0.094	NA	8	pCi/g
CE37-021	748789.041	2083671.102	0.0	0.3	Uranium-238	3.542	2.000	NA	351	pCi/g
CE37-022	748788.499	2083770.929	0.0	0.3	Uranium-234	10.300	2.253	NA	300	pCi/g
CE37-022	748788.499	2083770.929	0.0	0.3	Uranium-235	0.628	0.094	NA	8	pCi/g
CE37-023	748827.503	2083749.195	0.0	0.3	Uranium-234	2.517	2.253	NA	300	pCi/g
CE37-023	748827.503	2083749.195	0.0	0.3	Uranium-235	0.488	0.094	NA	8	pCi/g
CE37-023	748827.503	2083749.195	0.0	0.3	Uranium-238	2.517	2.000	NA	351	pCi/g
CE37-024	748875.425	2083788.709	0.0	0.3	Uranium-234	7.497	2.253	NA	300	pCi/g
CE37-024	748875.425	2083788.709	0.0	0.3	Uranium-235	0.698	0.094	NA	8	pCi/g
CE37-024	748875.425	2083788.709	0.0	0.3	Uranium-238	7.497	2.000	NA	351	pCi/g
CE37-025	748930.314	2083765.353	0.0	0.3	Uranium-234	5.054	2.253	NA	300	pCi/g
CE37-025	748930.314	2083765.353	0.0	0.3	Uranium-235	0.371	0.094	NA	8	pCi/g
CE37-025	748930.314	2083765.353	0.0	0.3	Uranium-238	5.054	2.000	NA	351	pCi/g
CE37-026	748961.822	2083799.366	0.0	0.3	Uranium-235	0.443	0.094	NA	8	pCi/g
CE37-027	749041.854	2083730.527	0.0	0.3	Uranium-235	0.747	0.094	NA	8	pCi/g
CE38-000	749016.083	2083667.789	2.5	4.5	Uranium-234	5.238	2.640	NA	300	pCi/g
CE38-000	749016.083	2083667.789	2.5	4.5	Uranium-235	0.202	0.120	NA	8	pCi/g
CE38-000	749016.083	2083667.789	2.5	4.5	Uranium-238	5.238	1.490	NA	351	pCi/g

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Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRW AL	Unit
CE38-001-01	749013.729	2083669.087	3.0	3.5	Americium-241	5.120	0.020	NA	76	pCi/g
CE38-001-01	749013.729	2083669.087	3.0	3.5	Beryllium	15.000	14.200	NA	921	mg/kg
CE38-001-01	749013.729	2083669.087	3.0	3.5	Cadmium	22.000	1.700	NA	962	mg/kg
CE38-001-01	749013.729	2083669.087	3.0	3.5	Copper	42.000	38.210	NA	40900	mg/kg
CE38-001-01	749013.729	2083669.087	3.0	3.5	Mercury	5.200	1.520	NA	25200	mg/kg
CE38-001-01	749013.729	2083669.087	3.0	3.5	Naphthalene	4.600	NA	1.000	3090000	ug/kg
CE38-001-01	749013.729	2083669.087	3.0	3.5	Plutonium-239/240	16.900	0.020	NA	50	pCi/g
CE38-001-01	749013.729	2083669.087	3.0	3.5	Tetrachloroethene	2.400	NA	1.200	615000	ug/kg
CE38-001-01	749013.729	2083669.087	3.0	3.5	Uranium, Total	5.500	3.040	NA	2750	mg/kg
CE38-001-01	749013.729	2083669.087	3.0	3.5	Uranium-234	28.900	2.640	NA	300	pCi/g
CE38-001-01	749013.729	2083669.087	3.0	3.5	Uranium-235	1.900	0.120	NA	8	pCi/g
CE38-001-01	749013.729	2083669.087	3.0	3.5	Uranium-238	5.930	1.490	NA	351	pCi/g
CE38-003	748921.225	2083665.970	3.5	4.0	Americium-241	0.189	0.020	NA	76	pCi/g
CE38-003	748921.225	2083665.970	3.5	4.0	Plutonium-239/240	0.425	0.020	NA	50	pCi/g
CE38-006	749043.479	2083774.711	0.0	0.3	Uranium-234	3.423	2.253	NA	300	pCi/g
CE38-006	749043.479	2083774.711	0.0	0.3	Uranium-235	0.250	0.094	NA	8	pCi/g
CE38-006	749043.479	2083774.711	0.0	0.3	Uranium-238	3.423	2.000	NA	351	pCi/g
CE38-007	749010.371	2083759.563	0.0	0.3	Uranium-234	3.907	2.253	NA	300	pCi/g
CE38-007	749010.371	2083759.563	0.0	0.3	Uranium-235	0.424	0.094	NA	8	pCi/g
CE38-007	749010.371	2083759.563	0.0	0.3	Uranium-238	3.907	2.000	NA	351	pCi/g
CE38-008	749046.502	2083757.338	0.0	0.3	Uranium-234	3.819	2.253	NA	300	pCi/g
CE38-008	749046.502	2083757.338	0.0	0.3	Uranium-235	0.272	0.094	NA	8	pCi/g
CE38-008	749046.502	2083757.338	0.0	0.3	Uranium-238	3.819	2.000	NA	351	pCi/g
CE38-009	749009.983	2083738.176	0.0	0.3	Uranium-234	3.106	2.253	NA	300	pCi/g
CE38-009	749009.983	2083738.176	0.0	0.3	Uranium-235	0.179	0.094	NA	8	pCi/g
CE38-009	749009.983	2083738.176	0.0	0.3	Uranium-238	3.106	2.000	NA	351	pCi/g
CE38-010	749054.349	2083727.852	0.0	0.3	Uranium-234	4.922	2.253	NA	300	pCi/g
CE38-010	749054.349	2083727.852	0.0	0.3	Uranium-235	0.317	0.094	NA	8	pCi/g
CE38-010	749054.349	2083727.852	0.0	0.3	Uranium-238	4.922	2.000	NA	351	pCi/g
CE38-011	749016.499	2083714.134	0.0	0.3	Uranium-234	3.383	2.253	NA	300	pCi/g
CE38-011	749016.499	2083714.134	0.0	0.3	Uranium-235	0.321	0.094	NA	8	pCi/g
CE38-011	749016.499	2083714.134	0.0	0.3	Uranium-238	3.383	2.000	NA	351	pCi/g

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Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRW AL	Unit
CF36-001	748686.360	2083808.409	0.0	0.5	Uranium-238	2.180	2.000	NA	351	pCi/g
CF36-002	748705.924	2083845.804	0.0	0.5	Uranium-235	0.216	0.094	NA	8	pCi/g
CF36-003	748686.795	2083846.773	0.0	0.5	Uranium-235	0.214	0.094	NA	8	pCi/g
CF36-003	748686.795	2083846.773	0.0	0.5	Uranium-238	2.008	2.000	NA	351	pCi/g
CF36-004	748705.895	2083821.054	0.0	0.5	Uranium-235	0.115	0.094	NA	8	pCi/g
CF36-005	748699.590	2083785.110	0.0	0.5	Acetone	9.000	NA	4.900	102000000	ug/kg
CF36-005	748699.590	2083785.110	0.0	0.5	Antimony	1.200	0.470	NA	409	mg/kg
CF36-005	748699.590	2083785.110	0.0	0.5	Benzo(a)anthracene	37.000	NA	26.000	34900	ug/kg
CF36-005	748699.590	2083785.110	0.0	0.5	Copper	26.000	18.060	NA	40900	mg/kg
CF36-005	748699.590	2083785.110	0.0	0.5	Toluene	3.600	NA	0.840	31300000	ug/kg
CF36-006	748748.720	2083828.830	0.0	0.5	Chromium	17.000	16.990	NA	268	mg/kg
CF36-006	748748.720	2083828.830	0.0	0.5	Cobalt	14.000	10.910	NA	1550	mg/kg
CF36-006	748748.720	2083828.830	0.0	0.5	Copper	180.000	18.060	NA	40900	mg/kg
CF36-006	748748.720	2083828.830	0.0	0.5	Iron	30000.000	18037.000	NA	307000	mg/kg
CF36-006	748748.720	2083828.830	0.0	0.5	Lithium	12.000	11.550	NA	20400	mg/kg
CF36-006	748748.720	2083828.830	0.0	0.5	Manganese	580.000	365.080	NA	3480	mg/kg
CF36-006	748748.720	2083828.830	0.0	0.5	Nickel	22.000	14.910	NA	20400	mg/kg
CF36-006	748748.720	2083828.830	0.0	0.5	Strontium	110.000	48.940	NA	613000	mg/kg
CF36-006	748748.720	2083828.830	0.0	0.5	Uranium-234	4.231	2.253	NA	300	pCi/g
CF36-006	748748.720	2083828.830	0.0	0.5	Uranium-235	0.255	0.094	NA	8	pCi/g
CF36-006	748748.720	2083828.830	0.0	0.5	Uranium-238	4.231	2.000	NA	351	pCi/g
CF36-006	748748.720	2083828.830	0.0	0.5	Vanadium	63.000	45.590	NA	7150	mg/kg
CF36-010	748736.568	2083894.066	9.0	9.3	2-Methylnaphthalene	93.000	NA	22.000	20400000	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Acenaphthene	370.000	NA	20.000	40800000	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Anthracene	620.000	NA	20.000	204000000	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Benzo(a)anthracene	2200.000	NA	23.000	34900	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Benzo(a)pyrene	2200.000	NA	23.000	3490	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Benzo(b)fluoranthene	1700.000	NA	62.000	34900	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Chrysene	2200.000	NA	32.000	3490000	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Dibenzofuran	160.000	NA	23.000	2950000	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Fluoranthene	4400.000	NA	42.000	27200000	ug/kg

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRWAL	Unit
CF36-010	748736.568	2083894.066	9.0	9.3	Fluorene	220.000	NA	21.000	40800000	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Indeno(1,2,3-cd)pyrene	1100.000	NA	26.000	34900	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Naphthalene	8.640	NA	5.820	3090000	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Phenol	1800.000	NA	21.000	613000000	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Pyrene	4600.000	NA	150.000	22100000	ug/kg
CF36-010	748736.568	2083894.066	9.0	9.3	Uranium-235	0.121	0.120	NA	8	pCi/g
CF36-010	748736.568	2083894.066	9.0	9.3	Uranium-238	2.497	1.490	NA	351	pCi/g
CF36-012	749028.035	2083831.758	0.0	0.3	Uranium-234	2.677	2.253	NA	300	pCi/g
CF36-012	749028.035	2083831.758	0.0	0.3	Uranium-235	0.178	0.094	NA	8	pCi/g
CF36-012	749028.035	2083831.758	0.0	0.3	Uranium-238	2.677	2.000	NA	351	pCi/g
CF36-013	749008.878	2083877.247	0.0	0.3	Uranium-234	2.597	2.253	NA	300	pCi/g
CF36-013	749008.878	2083877.247	0.0	0.3	Uranium-235	0.248	0.094	NA	8	pCi/g
CF36-013	749008.878	2083877.247	0.0	0.3	Uranium-238	2.597	2.000	NA	351	pCi/g
CF36-015	748958.481	2083891.441	0.0	0.3	Uranium-235	0.199	0.094	NA	8	pCi/g
CF36-015	748958.481	2083891.441	0.0	0.3	Uranium-238	2.038	2.000	NA	351	pCi/g
CF36-016	748912.272	2083914.140	0.0	0.3	Uranium-234	5.777	2.253	NA	300	pCi/g
CF36-016	748912.272	2083914.140	0.0	0.3	Uranium-235	0.205	0.094	NA	8	pCi/g
CF36-016	748912.272	2083914.140	0.0	0.3	Uranium-238	5.777	2.000	NA	351	pCi/g
CF36-017	748865.263	2083872.927	0.0	0.3	Uranium-234	3.815	2.253	NA	300	pCi/g
CF36-017	748865.263	2083872.927	0.0	0.3	Uranium-235	0.227	0.094	NA	8	pCi/g
CF36-017	748865.263	2083872.927	0.0	0.3	Uranium-238	3.815	2.000	NA	351	pCi/g
CF37-000	748878.871	2083770.454	0.0	0.5	Lithium	14.000	11.550	NA	20400	mg/kg
CF37-000	748878.871	2083770.454	0.0	0.5	Chromium	22.000	16.990	NA	268	mg/kg
CF37-000	748878.871	2083770.454	0.0	0.5	Uranium-235	0.236	0.094	NA	8	pCi/g
CF37-001	748925.414	2083769.790	0.0	0.5	Chromium	20.000	16.990	NA	268	mg/kg
CF37-001	748925.414	2083769.790	0.0	0.5	Copper	34.000	18.060	NA	40900	mg/kg
CF37-001	748925.414	2083769.790	0.0	0.5	Fluoranthene	45.000	NA	24.000	27200000	ug/kg
CF37-001	748925.414	2083769.790	0.0	0.5	Nickel	19.000	14.910	NA	20400	mg/kg
CF37-001	748925.414	2083769.790	0.0	0.5	Strontium	59.000	48.940	NA	613000	mg/kg
CF37-007	748824.340	2083731.340	0.0	0.5	Cobalt	13.000	10.910	NA	1550	mg/kg
CF37-007	748824.340	2083731.340	0.0	0.5	Copper	110.000	18.060	NA	40900	mg/kg

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CF37-007	748824.340	2083731.340	0.0	0.5	Iron	27000.000	18037.000	NA	307000	mg/kg
CF37-007	748824.340	2083731.340	0.0	0.5	Manganese	620.000	365.080	NA	3480	mg/kg
CF37-007	748824.340	2083731.340	0.0	0.5	Nickel	21.000	14.910	NA	20400	mg/kg
CF37-007	748824.340	2083731.340	0.0	0.5	Strontium	90.000	48.940	NA	613000	mg/kg
CF37-007	748824.340	2083731.340	0.0	0.5	Tin	7.400	2.900	NA	613000	mg/kg
CF37-007	748824.340	2083731.340	0.0	0.5	Uranium-235	0.149	0.094	NA	8	pCi/g
CF37-007	748824.340	2083731.340	0.0	0.5	Vanadium	55.000	45.590	NA	7150	mg/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Acenaphthene	74.000	NA	31.000	40800000	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Anthracene	110.000	NA	24.000	204000000	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Benzo(a)anthracene	200.000	NA	25.000	34900	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Benzo(a)pyrene	180.000	NA	41.000	3490	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Benzo(b)fluoranthene	120.000	NA	29.000	34900	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Benzo(k)fluoranthene	170.000	NA	32.000	349000	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Chrysene	230.000	NA	28.000	3490000	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Fluoranthene	500.000	NA	23.000	27200000	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Indeno(1,2,3-cd)pyrene	83.000	NA	23.000	34900	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Pyrene	470.000	NA	140.000	22100000	ug/kg
CF37-009	748896.138	2083738.837	4.5	6.5	Uranium-235	0.148	0.120	NA	8	pCi/g
CF37-009	748896.138	2083738.837	4.5	6.5	Uranium-238	1.675	1.490	NA	351	pCi/g
CF37-010	748866.220	2083769.660	0.0	0.4	Cobalt	17.000	10.910	NA	1550	mg/kg
CF37-010	748866.220	2083769.660	0.0	0.4	Copper	78.000	18.060	NA	40900	mg/kg
CF37-010	748866.220	2083769.660	0.0	0.4	Diethylphthalate	49.000	NA	31.000	590000000	ug/kg
CF37-010	748866.220	2083769.660	0.0	0.4	Iron	27000.000	18037.000	NA	307000	mg/kg
CF37-010	748866.220	2083769.660	0.0	0.4	Lithium	13.000	11.550	NA	20400	mg/kg
CF37-010	748866.220	2083769.660	0.0	0.4	Manganese	590.000	365.080	NA	3480	mg/kg
CF37-010	748866.220	2083769.660	0.0	0.4	Nickel	20.000	14.910	NA	20400	mg/kg
CF37-010	748866.220	2083769.660	0.0	0.4	Strontium	100.000	48.940	NA	613000	mg/kg
CF37-010	748866.220	2083769.660	0.0	0.4	Uranium-235	0.132	0.094	NA	8	pCi/g
CF37-010	748866.220	2083769.660	0.0	0.4	Vanadium	50.000	45.590	NA	7150	mg/kg
CF37-012	748754.057	2083871.087	20.0	22.0	Acetone	7.500	NA	1.600	102000000	ug/kg
CF37-012	748754.057	2083871.087	20.0	22.0	Americium-241	0.102	0.020	NA	76	pCi/g

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CF37-012	748754.057	2083871.087	20.0	22.0	Methylene chloride	2.700	NA	0.350	2530000	ug/kg
CF37-012	748754.057	2083871.087	20.0	22.0	Tetrachloroethene	0.200	NA	0.190	615000	ug/kg
CF37-013	748844.890	2083933.290	0.0	0.5	Uranium-234	4.637	2.640	NA	300	pCi/g
CF37-013	748844.890	2083933.290	0.0	0.5	Uranium-235	0.200	0.120	NA	8	pCi/g
CF37-013	748844.890	2083933.290	0.0	0.5	Uranium-238	4.637	1.490	NA	351	pCi/g
CF37-014	748949.080	2083903.580	0.0	0.5	4-Nitrophenol	320.000	NA	260.000	8180000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Acenaphthene	100.000	NA	32.000	40800000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Anthracene	150.000	NA	24.000	204000000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Benzo(a)anthracene	340.000	NA	25.000	34900	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Benzo(a)pyrene	310.000	NA	41.000	3490	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Benzo(b)fluoranthene	240.000	NA	30.000	34900	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Benzo(k)fluoranthene	290.000	NA	33.000	349000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	bis(2-Ethylhexyl)phthalate	220.000	NA	74.000	1970000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Chrysene	370.000	NA	29.000	3490000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Dibenzofuran	41.000	NA	37.000	2950000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Fluoranthene	800.000	NA	23.000	27200000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Fluorene	71.000	NA	35.000	40800000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Indeno(1,2,3-cd)pyrene	180.000	NA	23.000	34900	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Lead	34.000	24.970	NA	1000	mg/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Pyrene	790.000	NA	140.000	22100000	ug/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Uranium, Total	31.000	3.040	NA	2750	mg/kg
CF37-014	748949.080	2083903.580	0.0	0.5	Uranium-234	11.850	2.640	NA	300	pCi/g
CF37-014	748949.080	2083903.580	0.0	0.5	Uranium-235	0.299	0.120	NA	8	pCi/g
CF37-014	748949.080	2083903.580	0.0	0.5	Uranium-238	11.850	1.490	NA	351	pCi/g
CF37-017	748842.430	2083823.290	17.0	17.5	Uranium-234	4.986	2.640	NA	300	pCi/g
CF37-017	748842.430	2083823.290	17.0	17.5	Uranium-235	0.249	0.120	NA	8	pCi/g
CF37-017	748842.430	2083823.290	17.0	17.5	Uranium-238	4.986	1.490	NA	351	pCi/g
CF37-023	748761.350	2083752.800	0.0	0.5	Copper	57.000	18.060	NA	40900	mg/kg
CF37-023	748761.350	2083752.800	0.0	0.5	Iron	25000.000	18037.000	NA	307000	mg/kg
CF37-023	748761.350	2083752.800	0.0	0.5	Manganese	530.000	365.080	NA	3480	mg/kg
CF37-023	748761.350	2083752.800	0.0	0.5	Nickel	19.000	14.910	NA	20400	mg/kg

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Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRW AL	Unit
CF37-023	748761.350	2083752.800	0.0	0.5	Strontium	100.000	48.940	NA	613000	mg/kg
CF37-023	748761.350	2083752.800	0.0	0.5	Uranium-234	3.962	2.253	NA	300	pCi/g
CF37-023	748761.350	2083752.800	0.0	0.5	Uranium-235	0.299	0.094	NA	8	pCi/g
CF37-023	748761.350	2083752.800	0.0	0.5	Uranium-238	3.962	2.000	NA	351	pCi/g
CF37-023	748761.350	2083752.800	0.0	0.5	Vanadium	53.000	45.590	NA	7150	mg/kg
CF37-024	748820.390	2083812.310	17.0	17.5	Uranium-238	1.707	1.490	NA	351	pCi/g
CF37-026	748926.050	2083905.600	0.0	0.5	1,1,1-Trichloroethane	7.890	NA	4.940	79700000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	2-Butanone	155.000	NA	98.800	192000000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	2-Methylnaphthalene	260.000	NA	32.000	20400000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Acenaphthene	930.000	NA	31.000	40800000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Acetone	1280.000	NA	98.800	102000000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Anthracene	1500.000	NA	24.000	204000000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Barium	160.000	141.260	NA	26400	mg/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Benzo(a)anthracene	2000.000	NA	25.000	34900	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Benzo(a)pyrene	1500.000	NA	40.000	3490	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Benzo(b)fluoranthene	1000.000	NA	29.000	34900	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Benzo(k)fluoranthene	1500.000	NA	32.000	349000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Chromium	21.000	16.990	NA	268	mg/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Chrysene	1900.000	NA	28.000	3490000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Copper	24.000	18.060	NA	40900	mg/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Dibenz(a,h)anthracene	370.000	NA	25.000	3490	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Dibenzofuran	440.000	NA	36.000	2950000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Ethylbenzene	30.600	NA	4.940	4250000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Fluoranthene	5700.000	NA	23.000	27200000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Fluorene	750.000	NA	34.000	40800000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Indeno(1,2,3-cd)pyrene	780.000	NA	23.000	34900	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Lithium	14.000	11.550	NA	20400	mg/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Naphthalene	19.300	NA	4.940	3090000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Nickel	16.000	14.910	NA	20400	mg/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Pyrene	4900.000	NA	130.000	22100000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Strontium	110.000	48.940	NA	613000	mg/kg

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CF37-026	748926.050	2083905.600	0.0	0.5	Tetrachloroethene	13.600	NA	4.940	615000	ug/kg
CF37-026	748926.050	2083905.600	0.0	0.5	Uranium-234	3.774	2.253	NA	300	pCi/g
CF37-026	748926.050	2083905.600	0.0	0.5	Uranium-235	0.209	0.094	NA	8	pCi/g
CF37-026	748926.050	2083905.600	0.0	0.5	Uranium-238	3.774	2.000	NA	351	pCi/g
CF37-026	748926.050	2083905.600	0.0	0.5	Xylene	143.000	NA	9.880	2040000	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Aluminum	17000.000	16902.000	NA	228000	mg/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Anthracene	35.000	NA	23.000	204000000	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Benzo(a)anthracene	69.000	NA	24.000	34900	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Benzo(a)pyrene	66.000	NA	39.000	3490	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Benzo(b)fluoranthene	42.000	NA	28.000	34900	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Benzo(k)fluoranthene	58.000	NA	31.000	349000	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	bis(2-Ethylhexyl)phthalate	180.000	NA	71.000	1970000	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Chromium	31.000	16.990	NA	268	mg/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Chrysene	68.000	NA	27.000	3490000	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Copper	22.000	18.060	NA	40900	mg/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Diethylphthalate	68.000	NA	30.000	590000000	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Fluoranthene	140.000	NA	22.000	27200000	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Indeno(1,2,3-cd)pyrene	35.000	NA	22.000	34900	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Iron	19000.000	18037.000	NA	307000	mg/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Lithium	16.000	11.550	NA	20400	mg/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Nickel	18.000	14.910	NA	20400	mg/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Pyrene	150.000	NA	130.000	22100000	ug/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Strontium	200.000	48.940	NA	613000	mg/kg
CF37-028	748858.850	2083925.950	0.0	0.5	Tetrachloroethene	6.270	NA	4.880	615000	ug/kg
CF37-033	748990.430	2083866.600	5.0	5.5	TPH	337.000	NA	78.900	5000	mg/kg
CF37-034	748867.035	2083920.815	10.0	12.0	Benzo(a)anthracene	120.000	NA	25.000	34900	ug/kg
CF37-034	748867.035	2083920.815	10.0	12.0	Chrysene	120.000	NA	33.000	3490000	ug/kg
CF37-034	748867.035	2083920.815	10.0	12.0	Uranium-235	0.143	0.120	NA	8	pCi/g
CF37-035	748933.326	2083832.429	22.0	24.0	Uranium-234	4.226	2.640	NA	300	pCi/g
CF37-035	748933.326	2083832.429	22.0	24.0	Uranium-235	0.235	0.120	NA	8	pCi/g
CF37-035	748933.326	2083832.429	22.0	24.0	Uranium-238	4.226	1.490	NA	351	pCi/g

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CF37-036	748805.867	2083839.797	22.0	24.0	Benzo(a)anthracene	60.000	NA	25.000	34900	ug/kg
CF37-036	748805.867	2083839.797	22.0	24.0	bis(2-Ethylhexyl)phthalate	2200.000	NA	39.000	1970000	ug/kg
CF37-036	748805.867	2083839.797	22.0	24.0	Chrysene	75.000	NA	34.000	3490000	ug/kg
CF37-036	748805.867	2083839.797	22.0	24.0	Fluoranthene	120.000	NA	45.000	27200000	ug/kg
CF37-036	748805.867	2083839.797	22.0	24.0	Uranium-235	0.198	NA	0.120	8	pc/g
CF37-036	748805.867	2083839.797	22.0	24.0	Uranium-238	2.302	NA	1.490	351	pc/g
CF37-037	748654.234	2083855.462	0.0	0.3	Uranium-234	4.716	NA	2.253	300	pc/g
CF37-037	748654.234	2083855.462	0.0	0.3	Uranium-235	0.264	NA	0.094	8	pc/g
CF37-037	748654.234	2083855.462	0.0	0.3	Uranium-238	4.716	NA	2.000	351	pc/g
CF37-038	748670.003	2083850.183	0.0	0.3	Uranium-234	4.424	NA	2.253	300	pc/g
CF37-038	748670.003	2083850.183	0.0	0.3	Uranium-235	0.114	NA	0.094	8	pc/g
CF37-038	748670.003	2083850.183	0.0	0.3	Uranium-238	4.424	NA	2.000	351	pc/g
CF37-039	748689.089	2083846.183	0.0	0.3	Uranium-234	4.201	NA	2.253	300	pc/g
CF37-039	748689.089	2083846.183	0.0	0.3	Uranium-235	0.230	NA	0.094	8	pc/g
CF37-039	748689.089	2083846.183	0.0	0.3	Uranium-238	4.201	NA	2.000	351	pc/g
CF37-040	748707.629	2083844.124	0.0	0.3	Uranium-234	4.276	NA	2.253	300	pc/g
CF37-040	748707.629	2083844.124	0.0	0.3	Uranium-235	0.268	NA	0.094	8	pc/g
CF37-040	748707.629	2083844.124	0.0	0.3	Uranium-238	4.276	NA	2.000	351	pc/g
CF37-041	748658.788	2083884.343	0.0	0.3	Uranium-234	4.093	NA	2.253	300	pc/g
CF37-041	748658.788	2083884.343	0.0	0.3	Uranium-235	0.290	NA	0.094	8	pc/g
CF37-041	748658.788	2083884.343	0.0	0.3	Uranium-238	4.093	NA	2.000	351	pc/g
CF37-042	748678.970	2083885.230	0.0	0.3	Uranium-234	2.295	NA	2.253	300	pc/g
CF37-042	748678.970	2083885.230	0.0	0.3	Uranium-235	0.201	NA	0.094	8	pc/g
CF37-042	748678.970	2083885.230	0.0	0.3	Uranium-238	2.295	NA	2.000	351	pc/g
CF37-043	748698.973	2083884.287	0.0	0.3	Uranium-234	3.998	NA	2.253	300	pc/g
CF37-043	748698.973	2083884.287	0.0	0.3	Uranium-235	0.238	NA	0.094	8	pc/g
CF37-043	748698.973	2083884.287	0.0	0.3	Uranium-238	3.998	NA	2.000	351	pc/g
CF37-044	748721.493	2083880.286	0.0	0.3	Uranium-234	4.940	NA	2.253	300	pc/g
CF37-044	748721.493	2083880.286	0.0	0.3	Uranium-235	0.293	NA	0.094	8	pc/g
CF37-044	748721.493	2083880.286	0.0	0.3	Uranium-238	4.940	NA	2.000	351	pc/g
CF37-045	748686.690	2083914.725	0.0	0.3	Uranium-234	5.363	NA	2.253	300	pc/g

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Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRW AL	Unit
CF37-045	748686.690	2083914.725	0.0	0.3	Uranium-235	0.249	0.094	NA	8	pc/g
CF37-045	748686.690	2083914.725	0.0	0.3	Uranium-238	5.363	2.000	NA	351	pc/g
CF37-046	748706.059	2083909.478	0.0	0.3	Uranium-235	0.244	0.094	NA	8	pc/g
CF37-047	748727.967	2083911.542	0.0	0.3	Uranium-234	3.249	2.253	NA	300	pc/g
CF37-047	748727.967	2083911.542	0.0	0.3	Uranium-235	0.281	0.094	NA	8	pc/g
CF37-047	748727.967	2083911.542	0.0	0.3	Uranium-238	3.249	2.000	NA	351	pc/g
CF37-048	748667.853	2083953.910	0.0	0.3	Uranium-234	4.680	2.253	NA	300	pc/g
CF37-048	748667.853	2083953.910	0.0	0.3	Uranium-235	0.153	0.094	NA	8	pc/g
CF37-048	748667.853	2083953.910	0.0	0.3	Uranium-238	4.680	2.000	NA	351	pc/g
CF37-049	748696.023	2083950.055	0.0	0.3	Uranium-234	4.160	2.253	NA	300	pc/g
CF37-049	748696.023	2083950.055	0.0	0.3	Uranium-235	0.201	0.094	NA	8	pc/g
CF37-049	748696.023	2083950.055	0.0	0.3	Uranium-238	4.160	2.000	NA	351	pc/g
CF37-050	748720.915	2083950.262	0.0	0.3	Uranium-234	4.033	2.253	NA	300	pc/g
CF37-050	748720.915	2083950.262	0.0	0.3	Uranium-235	0.295	0.094	NA	8	pc/g
CF37-050	748720.915	2083950.262	0.0	0.3	Uranium-238	4.033	2.000	NA	351	pc/g
CF37-051	748739.917	2083940.787	0.0	0.3	Uranium-234	6.843	2.253	NA	300	pc/g
CF37-051	748739.917	2083940.787	0.0	0.3	Uranium-235	0.308	0.094	NA	8	pc/g
CF37-051	748739.917	2083940.787	0.0	0.3	Uranium-238	6.843	2.000	NA	351	pc/g
CF37-052	748673.763	2083984.114	0.0	0.3	Uranium-235	0.143	0.094	NA	8	pc/g
CF37-053	748704.494	2083982.701	0.0	0.3	Uranium-234	2.594	2.253	NA	300	pc/g
CF37-053	748704.494	2083982.701	0.0	0.3	Uranium-235	0.192	0.094	NA	8	pc/g
CF37-053	748704.494	2083982.701	0.0	0.3	Uranium-238	2.594	2.000	NA	351	pc/g
CF37-054	748731.084	2083982.071	0.0	0.3	Uranium-235	0.157	0.094	NA	8	pc/g
CF37-055	748753.434	2083978.049	0.0	0.3	Uranium-234	3.245	2.253	NA	300	pc/g
CF37-055	748753.434	2083978.049	0.0	0.3	Uranium-235	0.206	0.094	NA	8	pc/g
CF37-055	748753.434	2083978.049	0.0	0.3	Uranium-238	3.245	2.000	NA	351	pc/g
CF38-001-01	748982.591	2083768.672	0.0	0.5	2-Methylnaphthalene	100.000	NA	38.000	204000000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Acenaphthene	540.000	NA	36.000	408000000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Anthracene	680.000	NA	28.000	204000000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Benzo(a)anthracene	1200.000	NA	29.000	34900	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Barium	150.000	141.260	NA	26400	mg/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Benzo(a)anthracene	1200.000	NA	29.000	34900	ug/kg

Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRW AL	Unit
CF38-001-01	748982.591	2083768.672	0.0	0.5	Benzo(a)pyrene	1200.000	NA	47.000	3490	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Benzo(b)fluoranthene	1800.000	NA	34.000	34900	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Beryllium	1.200	0.966	NA	921	mg/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	bis(2-Ethylhexyl)phthalate	890.000	NA	85.000	1970000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Chromium	25.000	16.990	NA	268	mg/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Chrysene	1300.000	NA	33.000	3490000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Dibenzofuran	260.000	NA	43.000	2950000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Fluoranthene	2900.000	NA	27.000	27200000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Fluorene	470.000	NA	40.000	40800000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Indeno(1,2,3-cd)pyrene	620.000	NA	27.000	34900	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Mercury	0.150	0.134	NA	25200	mg/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Naphthalene	290.000	NA	38.000	3090000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Pyrene	2900.000	NA	160.000	22100000	ug/kg
CF38-001-01	748982.591	2083768.672	0.0	0.5	Strontium	56.000	48.940	NA	613000	mg/kg
CF38-011-01	749075.160	2083932.905	0.0	0.5	Uranium-234	3.401	2.253	NA	300	pCi/g
CF38-011-01	749075.160	2083932.905	0.0	0.5	Uranium-235	0.236	0.094	NA	8	pCi/g
CF38-011-01	749075.160	2083932.905	0.0	0.5	Uranium-238	3.401	2.000	NA	351	pCi/g
CF38-012	748832.143	2083905.938	0.0	0.3	Uranium-234	3.125	2.253	NA	300	pCi/g
CF38-012	748832.143	2083905.938	0.0	0.3	Uranium-238	3.125	2.000	NA	351	pCi/g
CF38-028	748788.464	2083870.236	0.0	0.3	Uranium-235	0.184	0.094	NA	8	pCi/g
CF38-029	748750.363	2083903.888	0.0	0.3	Uranium-234	5.674	2.253	NA	300	pCi/g
CF38-029	748750.363	2083903.888	0.0	0.3	Uranium-235	0.336	0.094	NA	8	pCi/g
CF38-029	748750.363	2083903.888	0.0	0.3	Uranium-238	5.674	2.000	NA	351	pCi/g
CF38-030	748719.318	2083878.562	0.0	0.3	Uranium-234	2.712	2.253	NA	300	pCi/g
CF38-030	748719.318	2083878.562	0.0	0.3	Uranium-235	0.099	0.094	NA	8	pCi/g
CF38-030	748719.318	2083878.562	0.0	0.3	Uranium-238	2.712	2.000	NA	351	pCi/g
CF38-031	748693.165	2083821.605	0.0	0.3	Uranium-235	0.207	0.094	NA	8	pCi/g
CF38-031	748693.165	2083821.605	0.0	0.3	Uranium-238	2.058	2.000	NA	351	pCi/g
CF38-033	748733.752	2083736.005	0.0	0.3	Uranium-235	0.277	0.094	NA	8	pCi/g
CG37-001	748822.555	2083934.590	0.0	0.3	Aroclor-1016	82.000	NA	4.700	46400	ug/kg
CG37-001	748822.555	2083934.590	0.0	0.3	Aroclor-1254	220.000	NA	7.100	12400	ug/kg

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Location Code	Latitude	Longitude	SBD (ft)	SED (ft)	Analyte	Result	Background	Reporting Limit	WRWAL	Unit
CG37-001	748822.555	2083934.590	0.0	0.3	Uranium-235	0.131	0.094	NA	8	pCi/g
CG37-002	748825.493	2083923.345	0.0	0.3	Aroclor-1016	42.000	NA	4.600	46400	ug/kg
CG37-002	748825.493	2083923.345	0.0	0.3	Aroclor-1254	73.000	NA	7.000	12400	ug/kg
CG37-002	748825.493	2083923.345	0.0	0.3	Uranium-235	0.266	0.094	NA	8	pCi/g
CG37-003	748843.295	2083922.949	0.0	0.3	Aroclor-1016	87.000	NA	4.800	46400	ug/kg
CG37-003	748843.295	2083922.949	0.0	0.3	Aroclor-1254	50.000	NA	7.200	12400	ug/kg
CG37-004	748849.386	2083934.064	0.0	0.3	Aroclor-1016	95.000	NA	4.900	46400	ug/kg
CG37-004	748849.386	2083934.064	0.0	0.3	Aroclor-1254	110.000	NA	7.300	12400	ug/kg
CG37-004	748849.386	2083934.064	0.0	0.3	Uranium-234	3.494	2.253	NA	300	pCi/g
CG37-004	748849.386	2083934.064	0.0	0.3	Uranium-235	0.120	0.094	NA	8	pCi/g
CG37-004	748849.386	2083934.064	0.0	0.3	Uranium-238	3.494	2.000	NA	351	pCi/g
CG37-006	748833.332	2083905.488	5.0	5.3	2-Butanone	197.000	NA	112.000	192000000	ug/kg
CG37-006	748833.332	2083905.488	5.0	5.3	4-Methyl-2-pentanone	318.000	NA	55.700	16400000	ug/kg
CG37-006	748833.332	2083905.488	5.0	5.3	Acetone	273.000	NA	112.000	102000000	ug/kg
CG37-006	748833.332	2083905.488	5.0	5.3	Uranium-235	0.168	0.120	NA	8	pCi/g

SBD – sample beginning depth
 SED – sample ending depth
 NA – not applicable
 µg/kg – micrograms per kilogram
 mg/kg – milligrams per kilogram
 pCi/g – picocuries per gram

Characterization data indicate that all contaminant concentrations were less than RFCA WRW ALs.

2.4 Sums of Ratios and Summary Statistics

SORs were calculated for surface soil sampling locations in IHSS Group 800-3. Radionuclide SORs were calculated for surface (0 to 3 ft below ground surface [bgs]) soil samples where radionuclide contaminants of concern (COCs) (americium-241, plutonium-239/240, uranium-234, uranium-235, and uranium-238) were detected at activities greater than background means plus two standard deviations. Plutonium-239/240 activities were derived from americium-241 activities (americium-241 gamma spectroscopy activity x 5.7) when americium-241 activities were measured using HPGe. Radionuclide SORs are presented in Table 4. All radionuclide SORs were less than 1.

Non-radionuclide SORs were calculated for surface (0 to 0.5 ft bgs) soil samples where non-radionuclide COCs were detected at concentrations of 10 percent or more of their WRW ALs, but less than the ALs. SORs were not calculated for aluminum, arsenic, iron, manganese, and polycyclic aromatic hydrocarbons. Non-radionuclide SORs are presented in Table 5. All non-radionuclide SORs were less than 1.

Summary statistics for IHSS Group 800-3 analytical results are presented in Tables 6 and 7 for surface and subsurface soil, respectively.

Table 4
IHSS Group 800-3 Sum of Ratios for Radionuclides in Surface Soil

Location Code	Latitude	Longitude	Start Depth (ft)	End Depth (ft)	Sum of Ratio to WRW
CE36-003	748690.682	2083693.781	0	0.3	0.03
CE36-004	748745.701	2083669.538	0	0.3	0.02
CE36-005	748693.387	2083668.879	0	0.3	0.03
CE37-000	748880.755	2083719.196	0	0.5	0.00
CE37-001	748926.035	2083718.099	0	0.5	0.00
CE37-004	748867.810	2083723.830	0	0.5	0.05
CE37-005	748869.220	2083742.390	0	0.5	0.02
CE37-008	748832.680	2083736.340	0	0.5	0.02
CE37-011	748854.008	2083702.660	0	0.1	0.02
CE37-012	748957.312	2083722.691	0	0.3	0.00
CE37-013	748910.482	2083709.556	0	0.3	0.03
CE37-014	748875.141	2083703.931	0	0.3	0.05
CE37-015	748831.924	2083696.684	0	0.3	0.02
CE37-016	748788.045	2083699.021	0	0.3	0.02
CE37-018	748911.844	2083678.676	0	0.3	0.02
CE37-019	748873.493	2083672.642	0	0.3	0.02
CE37-020	748832.593	2083672.102	0	0.3	0.02
CE37-021	748789.041	2083671.102	0	0.3	0.06
CE37-022	748788.499	2083770.929	0	0.3	0.11
CE37-023	748827.503	2083749.195	0	0.3	0.08
CE37-024	748875.425	2083788.709	0	0.3	0.13

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Location Code	Latitude	Longitude	Start Depth (ft)	End Depth (ft)	Sum of Ratio to WRW
CE37-025	748930.314	2083765.353	0	0.3	0.08
CE37-026	748961.822	2083799.366	0	0.3	0.06
CE37-027	749041.854	2083730.527	0	0.3	0.09
CE38-006	749043.479	2083774.711	0	0.3	0.05
CE38-007	749010.371	2083759.563	0	0.3	0.08
CE38-008	749046.502	2083757.338	0	0.3	0.06
CE38-009	749009.983	2083738.176	0	0.3	0.04
CE38-010	749054.349	2083727.852	0	0.3	0.07
CE38-011	749016.499	2083714.134	0	0.3	0.06
CF36-001	748683.524	2083805.705	0	0.5	0.01
CF36-002	748705.924	2083845.804	0	0.5	0.03
CF36-003	748682.401	2083846.872	0	0.5	0.03
CF36-004	748705.895	2083821.054	0	0.5	0.01
CF36-006	748748.720	2083828.830	0	0.5	0.06
CF36-012	749028.035	2083831.758	0	0.3	0.04
CF36-013	749008.878	2083877.247	0	0.3	0.05
CF36-015	748958.481	2083891.441	0	0.3	0.03
CF36-016	748912.272	2083914.140	0	0.3	0.06
CF36-017	748865.263	2083872.927	0	0.3	0.05
CF37-000	748878.871	2083770.454	0	0.5	0.03
CF37-007	748824.340	2083731.340	0	0.5	0.02
CF37-010	748866.220	2083769.660	0	0.4	0.02
CF37-013	748844.890	2083933.290	0	0.5	0.05
CF37-014	748949.080	2083903.580	0	0.5	0.11
CF37-023	748761.350	2083752.800	0	0.5	0.06
CF37-026	748926.050	2083905.600	0	0.5	0.05
CF37-037	748654.234	2083855.462	0	0.3	0.06
CF37-038	748670.003	2083850.183	0	0.3	0.04
CF37-039	748689.089	2083846.183	0	0.3	0.05
CF37-040	748707.629	2083844.124	0	0.3	0.06
CF37-041	748658.788	2083884.343	0	0.3	0.06
CF37-042	748678.970	2083885.230	0	0.3	0.04
CF37-043	748698.973	2083884.287	0	0.3	0.05
CF37-044	748721.493	2083880.286	0	0.3	0.07
CF37-045	748686.690	2083914.725	0	0.3	0.06
CF37-046	748706.059	2083909.478	0	0.3	0.03
CF37-047	748727.967	2083911.542	0	0.3	0.06
CF37-048	748667.853	2083953.910	0	0.3	0.05
CF37-049	748696.023	2083950.055	0	0.3	0.05
CF37-050	748720.915	2083950.262	0	0.3	0.06
CF37-051	748739.917	2083940.787	0	0.3	0.08
CF37-052	748673.763	2083984.114	0	0.3	0.02
CF37-053	748704.494	2083982.701	0	0.3	0.04

Location Code	Latitude	Longitude	Start Depth (ft)	End Depth (ft)	Sum of Ratio to WRW
CF37-054	748731.084	2083982.071	0	0.3	0.02
CF37-055	748753.434	2083978.049	0	0.3	0.05
CF38-011-01	749075.160	2083932.905	0	0.5	0.05
CF38-012	748832.143	2083905.938	0	0.3	0.02
CF38-028	748788.464	2083870.236	0	0.3	0.02
CF38-029	748750.363	2083903.888	0	0.3	0.08
CF38-030	748719.318	2083878.562	0	0.3	0.03
CF38-031	748693.165	2083821.605	0	0.3	0.03
CF38-033	748733.752	2083736.005	0	0.3	0.03
CG37-001	748822.555	2083934.590	0	0.3	0.02
CG37-002	748825.493	2083923.345	0	0.3	0.03
CG37-004	748849.386	2083934.064	0	0.3	0.04

Table 5
IHSS Group 800-3 Sum of Ratios for Non-Radionuclides in Surface Soil

Location Code	Latitude	Longitude	Start Depth	End Depth	Sum of Ratio to WRW
CF37-028	748858.850	2083925.950	0	0.5	0.12

Table 6
IHSS Group 800-3 Surface Soil Characterization Data Summary Statistics

Analyte	Total Number Samples Analyzed	Detection Frequency	Average Concentration	Maximum Concentration	Standard Deviation	Detection Limit	Background Mean Plus 2SD	Wildlife Refuge Worker Action Level	Unit
1,1,1-Trichloroethane	15	6.67%	7.890	7.890	NA	4.940	NA	79700000	ug/kg
2-Butanone	15	6.67%	155.000	155.000	NA	98.800	NA	1920000000	ug/kg
2-Methylnaphthalene	15	13.33%	180.000	260.000	113.137	35.000	NA	20400000	ug/kg
Acenaphthene	15	13.33%	735.000	930.000	275.772	33.500	NA	40800000	ug/kg
Acetone	15	13.33%	644.500	1280.000	898.733	51.850	NA	102000000	ug/kg
Aluminum	16	6.25%	17000.000	17000.000	NA	NA	16902.000	228000	mg/kg
Americium-241	88	2.27%	0.136	0.149	0.018	NA	0.023	76	pCi/g
Anthracene	15	26.67%	564.500	1500.000	693.021	25.250	NA	204000000	ug/kg
Antimony	16	12.50%	0.875	1.200	0.460	NA	0.470	409	mg/kg
Aroclor-1016	4	100.00%	76.500	95.000	23.615	4.750	NA	46400	ug/kg
Aroclor-1254	4	100.00%	113.250	220.000	75.336	7.150	NA	12400	ug/kg
Barium	16	12.50%	155.000	160.000	7.071	NA	141.260	26400	mg/kg
Benzo(a)anthracene	15	40.00%	586.000	2000.000	825.718	26.333	NA	34900	ug/kg
Benzo(a)pyrene	15	26.67%	724.000	1500.000	733.610	42.500	NA	3490	ug/kg
Benzo(b)fluoranthene	15	26.67%	763.000	1800.000	807.710	30.500	NA	34900	ug/kg
Benzo(k)fluoranthene	15	13.33%	779.000	1500.000	1019.648	31.500	NA	349000	ug/kg
Beryllium	16	6.25%	1.200	1.200	NA	NA	0.966	921	mg/kg
bis(2-Ethylhexyl)phthalate	15	26.67%	357.500	890.000	359.572	77.250	NA	1970000	ug/kg
Chromium	16	56.25%	21.444	31.000	4.275	NA	16.990	268	mg/kg
Chrysene	15	33.33%	700.200	1900.000	848.913	29.800	NA	3490000	ug/kg
Cobalt	16	37.50%	13.333	17.000	2.251	NA	10.910	1550	mg/kg
Copper	16	75.00%	61.333	180.000	45.406	NA	18.060	40900	mg/kg
Dibenz(a,h)anthracene	15	6.67%	370.000	370.000	NA	25.000	NA	3490	ug/kg
Dibenzofuran	15	13.33%	350.000	440.000	127.279	39.500	NA	2950000	ug/kg
Diethylphthalate	15	13.33%	58.500	68.000	13.435	30.500	NA	590000000	ug/kg
Ethylbenzene	15	13.33%	51.000	71.400	28.850	5.180	NA	4250000	ug/kg
Fluoranthene	15	40.00%	1526.000	5700.000	2325.709	24.333	NA	27200000	ug/kg

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Analyte	Total Number Samples Analyzed	Detection Frequency	Average Concentration	Maximum Concentration	Standard Deviation	Detection Limit	Background Mean Plus 2SD	Wildlife Refuge Worker Action Level	Unit
Fluorene	15	13.33%	610.000	750.000	197.990	37.000	NA	40800000	ug/kg
Indeno(1,2,3-cd)pyrene	15	20.00%	478.333	780.000	392.184	24.000	NA	34900	ug/kg
Iron	16	56.25%	26444.444	30000.000	3431.877	NA	18037.000	307000	mg/kg
Lithium	16	43.75%	13.857	16.000	1.676	NA	11.550	20400	mg/kg
Manganese	16	43.75%	570.000	650.000	71.880	NA	365.080	3480	mg/kg
Mercury	16	6.25%	0.150	0.150	NA	NA	0.134	25200	mg/kg
Naphthalene	17	11.76%	154.650	290.000	191.414	21.470	NA	3090000	ug/kg
Nickel	16	56.25%	19.000	22.000	1.803	NA	14.910	20400	mg/kg
Plutonium-239/240	88	1.14%	0.182	0.182	NA	NA	0.066	50	pCi/g
Pyrene	15	26.67%	2055.000	4900.000	2282.053	142.500	NA	22100000	ug/kg
Sroutium	16	68.75%	106.818	200.000	38.348	NA	48.940	613000	mg/kg
Tetrachloroethene	15	13.33%	9.935	13.600	5.183	4.910	NA	615000	ug/kg
Tin	16	12.50%	5.250	7.400	3.041	NA	2.900	613000	mg/kg
Toluene	15	6.67%	3.600	3.600	NA	0.840	NA	31300000	ug/kg
Uranium-234	88	47.73%	4.074	10.300	1.530	NA	2.253	300	pCi/g
Uranium-235	88	78.41%	0.245	0.747	0.124	NA	0.094	8	pCi/g
Uranium-238	88	51.14%	3.758	7.497	1.250	NA	2.000	351	pCi/g
Vanadium	16	43.75%	56.571	64.000	5.503	NA	45.590	7150	mg/kg
Xylene	15	13.33%	342.000	541.000	281.428	10.340	NA	2040000	ug/kg
Zinc	16	12.50%	120.000	120.000	0.000	NA	73.760	307000	mg/kg

Table 7
IHSS Group 800-3 Subsurface Soil Characterization Data Summary Statistics

Analyte	Total Number Samples Analyzed	Detection Frequency	Average Concentration	Maximum Concentration	Standard Deviation	Detection Limit	Background Mean Plus 2SD	Wildlife Refuge Worker Action Level	Unit
2-Butanone	18	5.56%	197.000	197.000	NA	112.000	NA	192000000	ug/kg
2-Methylnaphthalene	16	6.25%	93.000	93.000	NA	22.000	NA	20400000	ug/kg
4-Methyl-2-pentanone	18	5.56%	318.000	318.000	NA	55.700	NA	16400000	ug/kg
4-Nitrophenol	15	6.67%	320.000	320.000	NA	260.000	NA	8180000	ug/kg
Acenaphthene	16	25.00%	146.500	370.000	150.876	29.250	NA	40800000	ug/kg
Acetone	18	16.67%	96.833	273.000	152.570	39.833	NA	102000000	ug/kg
Americium-241	23	13.04%	1.804	5.120	2.872	NA	0.020	76	pCi/g
Anthracene	16	25.00%	232.000	620.000	262.048	23.500	NA	204000000	ug/kg
Benzo(a)anthracene	16	56.25%	360.111	2200.000	696.246	26.444	NA	34900	ug/kg
Benzo(a)pyrene	16	31.25%	581.800	2200.000	908.554	39.200	NA	3490	ug/kg
Benzo(b)fluoranthene	16	31.25%	446.200	1700.000	703.980	37.400	NA	34900	ug/kg
Benzo(k)fluoranthene	16	25.00%	165.250	290.000	92.576	34.500	NA	349000	ug/kg
Beryllium	23	4.35%	15.000	15.000	NA	NA	14.200	921	mg/kg
bis(2-Ethylhexyl)phthalate	16	31.25%	545.400	2200.000	926.423	73.400	NA	1970000	ug/kg
Cadmium	23	4.35%	22.000	22.000	NA	NA	1.700	962	mg/kg
Chrysene	16	56.25%	374.889	2200.000	691.996	31.667	NA	3490000	ug/kg
Copper	23	4.35%	42.000	42.000	NA	NA	38.210	40900	mg/kg
Dibenzofuran	16	12.50%	100.500	160.000	84.146	30.000	NA	2950000	ug/kg
Fluoranthene	16	43.75%	917.429	4400.000	1555.731	30.000	NA	27200000	ug/kg
Fluorene	16	12.50%	145.500	220.000	105.359	28.000	NA	40800000	ug/kg
Indeno(1,2,3-cd)pyrene	16	25.00%	355.250	1100.000	499.280	24.250	NA	34900	ug/kg
Lead	23	4.35%	34.000	34.000	NA	NA	24.970	1000	mg/kg
Mercury	23	4.35%	5.200	5.200	NA	NA	1.520	25200	mg/kg
Methylene chloride	18	11.11%	3.350	4.000	0.919	0.675	NA	2530000	ug/kg
Naphthalene	19	15.79%	7.747	10.000	2.809	2.640	NA	3090000	ug/kg
Phenol	15	6.67%	1800.000	1800.000	NA	21.000	NA	613000000	ug/kg
Plutonium-239/240	23	13.04%	5.818	16.900	9.598	NA	0.020	50	pCi/g

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Analyte	Total Number Samples Analyzed	Detection Frequency	Average Concentration	Maximum Concentration	Standard Deviation	Detection Limit	Background Mean Plus 2SD	Wildlife Refuge Worker Action Level	Unit
Pyrene	16	31.25%	1264.000	4600.000	1879.463	148.000	NA	22100000	ug/kg
Tetrachloroethene	18	16.67%	5.400	13.600	7.186	2.320	NA	615000	ug/kg
Uranium, Total	22	9.09%	18.250	31.000	18.031	NA	3.040	2750	mg/kg
Uranium-234	23	34.78%	8.544	28.900	8.615	NA	2.640	300	pCi/g
Uranium-235	23	60.87%	0.320	1.900	0.458	NA	0.120	8	pCi/g
Uranium-238	23	52.17%	4.464	11.850	2.725	NA	1.490	351	pCi/g

3.0 ACCELERATED ACTION

Accelerated action objectives for IHSS Group 800-3 were described in ER RSOP Notification #05-04 (DOE 2005). The accelerated action objectives included the following:

- Remove the Building 883 slab, as well as building footers and concrete pits and tanks to a depth of 3 ft below final grade.
- Remove all process, sanitary, foundation, and storm drains, including OPWL, within 3 ft of the surface.
- Remove soil with non-radionuclide or uranium contaminant concentrations greater than the RFCA WRW ALs to a depth of 6 inches. If soil contamination greater than the ALs extends below 6 inches in depth, perform the SSRS to evaluate the need for further accelerated action.
- Remove soil with plutonium-239/240 or americium-241 activities greater than the RFCA WRW ALs to a depth of 3 ft, or to less than the applicable AL, which ever comes first. If concentrations are greater than 3 nanocuries per gram (nCi/g) between 3 and 6 ft, characterize and remediate pursuant to RFCA Attachment 5 (DOE et al 2003). If plutonium-239/240 or americium-241 is present at activities greater than the RFCA WRW AL but less than 3 nCi/g below 3 ft, conduct an SSRS.
- If contaminated soil is removed, collect confirmation samples in accordance with the IABZSAP (DOE 2004a).

Accelerated action activities were conducted between August 2004 and April 19, 2005. Starting and ending dates of significant activities are listed in Table 8. Key structural features removed and remaining are shown on Figure 7.

Table 8
IHSS Group 800-3 Accelerated Action Activities

Activity	Starting Date	Ending Date
Sampling and analysis	August 05, 2004	April 19, 2005
Excavation	March 2, 2005	April 18, 2005
Backfilling Excavation	April 18, 2005	Ongoing (about 60% complete)

3.1 Accelerated Action Activities

All accelerated action objectives were met as described below:

- All surface and subsurface COCs are less than RFCA WRW ALs.
- Building 883 building slab and numerous equipment pads were removed.
- Building 883 Tanks T-25 and T-26 were removed prior to building decontamination and decommissioning.
- The hydraulic elevator shaft was removed, but the casing around the cylinder remains. The casing is approximately 15 inches in diameter. The top of the casing is approximately 12 to 13 ft in length, and the top of the casing is approximately 20 ft bgs.

- The Room 138 pit was removed.
- The Room 139 pit was removed.
- The shear pad was removed.
- The Loewy rolling mill foundation was partially removed. The remaining foundation ranges from 14 to 20 ft bgs. The associated four roller table pits were also removed.
- Two 2,000-ton press pits were removed. Four caissons under the eastern 2,000-ton press pit remain but are deeper than 3 ft bgs.
- The steam line pit was removed.
- The Cincinnati shear pit was removed.
- The Room 135 transformer pit and two other transformer pits were removed.
- The buttress beams on the southern and western sides of Building 883 were removed.
- Foundation column pads attached to bedrock remain, but all columns were removed.
- The air tunnels and air tunnel connections to the plenum building were removed.
- The tunnel between Building 883 and Building 881 is 3 ft bgs at Building 883 and was not removed.
- NPWL from Valve Vault 2 to Building 883 and from Valve Vault 2 to Valve Vault 1 were removed. NPWL from Valve Vault 2 to Valve Vault 3 was not removed, but RCRA clean-closed. Valve Vault 2 was removed to greater than 4 ft bgs and grouted.
- All OPWL under Building 883 was removed as well as OPWL from approximately 4 ft east of Valve Vault 2 to Building 883. Remaining OPWL was grouted. OPWL from Valve Vault 2 north to the manway at 8th Street and Central Avenue and the OPWL from Valve Vault 2 south to the manway were grouted at the manways.
- Sanitary lines under and adjacent to Building 883 were removed as well as the lift station south of the building.
- Storm and roof drains under and adjacent to Building 883 were removed. The storm drain southeast of Building 883 remains. The remaining drain is PVC piping.
- A clay pipe along the western side of Building 883, which was approximately 20 ft bgs, was removed. It is not clear from the as-built drawings or the excavation for what this pipe was used.

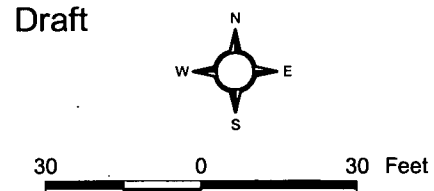
After removal activities were completed, backfilling the Building 883 excavation commenced. The gravel that had been removed to allow structural features to be removed is being mixed with clean soil and put back into the excavation. The source of clean soil is Functional Channel 1.

These accelerated actions are described in a RCR dated April 7, 2005 (Appendix A). Removed and remaining structures are shown on Figure 7. Accelerated actions associated with OPWL and NPWL will be further documented in separate closeout reports for IHSS Groups 000-2 and 000-4, respectively.

Figure 7
IHSS 800-3
Structural Features Removed and Remaining

- KEY**
- Removed building
 - Removed tank
 - Remaining valve vault
 - Remaining Pit Foundation
 - Removed Pit Foundation
 - Remaining column
 - Removed NPWL
 - Remaining NPWL
 - Removed OPWL
 - Remaining OPWL
 - Removed sewer line
 - Remaining sewer line
 - Removed roof drain
 - Removed storm drain
 - Remaining storm drain
 - Removed drain
 - Removed buttress beam
 - Paved area
 - Stream, ditch, or other drainage feature

Draft



Scale = 1:450

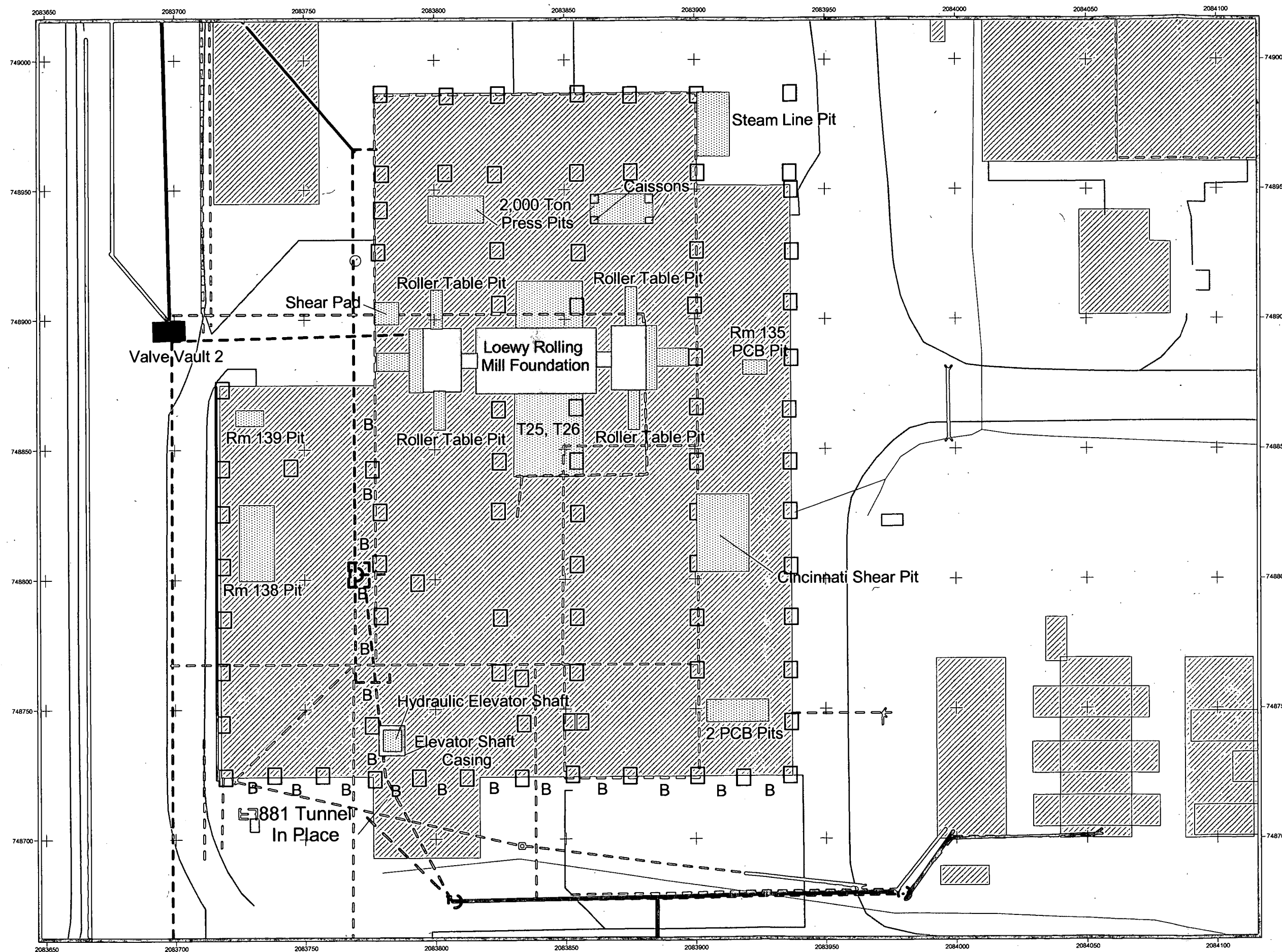
State Plane Coordinate Projection
 Colorado Central Zone
 Datum: NAD 27

U.S. Department of Energy
 Rocky Flats Environmental Technology Site

Prepared by: Date: May 2005

Prepared for:
KAISER-HILL
 COMPANY

File: w:\projects\2004\800-3\closeout\800-3_closeout_091404.apr



4.0 POST-REMEDATION CONDITIONS

All accelerated action objectives were met. The Building 883 slab and pits were removed. The remaining structures include deep column pads and the rolling mill foundation. OPWL and NPWL lines were removed. Excavations were backfilled, and remediated areas were graded. Removed and remaining structures are shown on Figure 7.

Surface and subsurface soil concentrations greater than background means plus two standard deviations or RLs are shown on Figures 2 through 6. Residual surface and subsurface contaminant concentrations are less than RFCA WRW ALs. Residual contamination is evaluated in the SSRS (Section 6.0) and will be further evaluated in the Sitewide Comprehensive Risk Assessment (CRA).

5.0 SUBSURFACE SOIL RISK SCREEN

The SSRS follows the steps identified in Figure 3 of Attachment 5 of RFCA (DOE et al. 2003).

Screen 1 – Are the COC concentrations below RFCA Table 3 Soil ALs for the WRW?

Yes, all COC concentrations are less than RFCA WRW ALs.

Screen 4 – Is there an environmental pathway and sufficient quantity of COCs that would cause an exceedance of the surface water standards?

No. Contaminant migration via surface runoff and groundwater are two possible pathways whereby surface water could become contaminated from IHSS Group 800-3 COCs. Runoff from IHSS Group 800-3 currently flows north into the Central Avenue Ditch and south into the South Interceptor Ditch (DOE 2003b). The nearest downstream RFCA Surface Water Points of Evaluation (POEs) are GS08 and SW029, respectively. Both POEs are significantly downstream of IHSS Group 800-3 and receive runoff from a large part of the IA. Any contamination detected at these POEs can not be easily attributed to any single IHSS Group. However, COC concentrations in subsurface soil within IHSS Group 800-3 are less than WRW ALs and are not likely to result in the exceedance of surface water ALs, especially since the area is not subject to high erosion.

Three RFCA groundwater monitoring wells (37791, 83101 and 83201) are located near IHSS Group 800-3. None of the samples collected from these wells during 2001 through 2004 had contaminant concentrations greater than RFCA Tier I groundwater ALs. Samples from one of these wells (83181, which is located at the southeastern corner of UBC 883) contained trichloroethene and tetrachloroethene concentrations greater than the RFCA Tier II groundwater ALs. This groundwater contamination and its potential to impact surface water quality are evaluated in the Interim Measure /Interim Remedial Action for Groundwater at the Rocky Flats Environmental Technology Site (DOE 2004d).

6.0 STEWARDSHIP EVALUATION

The IHSS Group 800-3 stewardship evaluation was based on current site conditions.

6.1 Current Site Conditions

Based on the accelerated action characterization and remediation activities, the following conditions exist at the IHSS Group 800-3 sites:

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- All surface and subsurface COCs are less than RFCA WRW ALs.
- The Building 883 slab, all equipment pads and concrete pits, air tunnels and connections to the plenum building, and foundation columns were removed.
- Building 883 Tanks T-25 and T-26 were previously removed.
- The remaining structures include deep column pads, a portion of the rolling mill foundation, four caissons under the eastern 2,000-ton press pit, and the tunnel between Buildings 883 and 881.
- NPWL from Valve Vault 2 to Building 883 and from Valve Vault 2 to Valve Vault 1 were removed. NPWL from Valve Vault 2 to Valve Vault 3 was not removed, but RCRA clean-closed. Valve Vault 2 was removed to greater than 4 ft bgs and grouted.
- All OPWL under Building 883 was removed as well as OPWL from approximately 4 ft east of Valve Vault 2 to Building 883. Remaining OPWL was grouted. OPWL from Valve Vault 2 north to the manway at 8th Street and Central Avenue and the OPWL from Valve Vault 2 south to the manway were grouted at the manways.
- Sanitary lines under and adjacent to Building 883 were removed as well as the lift station south of the building.
- Storm and roof drains under and adjacent to Building 883 were removed. The storm drain southeast of Building 883 remains. The remaining drain is PVC piping.
- A clay pipe along the western side of Building 883, which was approximately 20 ft bgs, was removed. It is not clear from the as-built drawings or the excavation for what this pipe was used.

6.2 Near-Term Management Recommendations

No IHSS Group-specific, near-term management techniques are required. Contaminant concentrations in soil remaining at IHSS Group 800-3 do not trigger any further accelerated action. Site-wide, near-term recommendations include the following:

- Excavation at the site will continue to be controlled through the Site Soil Disturbance Permit process; and
- Access will be restricted to minimize disturbance to newly revegetated areas.

Site access and security controls and the Soil Disturbance Permit process will remain in place pending implementation of long-term controls.

6.3 Long-Term Stewardship Recommendations

Based on remaining environmental conditions at IHSS Group 800-3, no IHSS Group-specific long-term stewardship activities are recommended beyond the generally applicable Site requirements. These requirements may be imposed on this area in the future. Institutional controls that will be used as appropriate for this area include the following:

- Prohibitions on construction of buildings in the IA;
- Restrictions on excavation or other soil disturbance; and
- Prohibitions on groundwater pumping in the area of IHSS Group 800-3.

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No IHSS Group-specific engineered controls or environmental monitoring are recommended as a result of the conditions remaining at IHSS Group 800-3. Likewise, no specific institutional or physical controls are recommended as a result of the conditions remaining at IHSS Group 800-3.

This Closeout Report and associated documentation will be retained as part of the Rocky Flats AR file.

IHSS Group 800-3 will be evaluated as part of the Sitewide CRA, which is part of the Resource Conservation and Recovery Act (RCRA) Remedial Investigation/Feasibility Study (RI/FS) that will be conducted for the Site. Potential ecological risk will be evaluated in the Accelerated Action Ecological Screening Evaluation and the ecological risk assessment portion of the CRA. The need for and extent of any more general, long-term stewardship activities will also be evaluated in the RI/FS. Institutional controls and other long-term stewardship requirements for Rocky Flats will be contained in the Corrective Action Decision/Record of Decision.

7.0 DEVIATIONS FROM THE ER RSOP

There were no deviations from the ER RSOP.

8.0 RCRA UNIT CLOSURE

Valve Vault 2 and associated NPWL components of RCRA Unit 374.3 within IHSS Group 800-3 were closed in accordance with the Closure Description Document for Partial Closure of Unit 374.3; 700 and 800 Area Process Waste Transfer System (DOE 2003c). NPWL from Valve Vault 2 to Building 883 and from Valve Vault 2 to Valve Vault 1 were removed. NPWL from Valve Vault 2 to Valve Vault 3 was not removed, but RCRA clean-closed. Valve Vault 2 was removed to 4 ft bgs and grouted. Closure of the entire RCRA unit will be detailed in future documentation, including the closeout report for IHSS Group 000-4.

9.0 WASTE MANAGEMENT

Waste from the IHSS Group 800-3 accelerated action consisted of concrete, pipeline, asphalt, and miscellaneous debris (Section 3.0). Clean concrete was disposed of as sanitary waste, and radiologically contaminated concrete was disposed of as low level radioactive waste (LLW). Process waste lines (OPWL and NPWL) were disposed as either LLW or low level radioactive mixed waste (LLMW), and sanitary lines were mostly disposed as sanitary waste. Valve vault debris was disposed in cargo containers as LLW. Asphalt and miscellaneous debris were disposed as sanitary waste. Waste volumes are presented in Table 9 by waste type.

Table 9
IHSS Group 800-3 Waste Summary

Type of Waste	Volume (cy)
LLW	10,000
Hazardous	
LLMW	
Sanitary	

All waste management activities associated with this accelerated action were managed by the RFETS Material Stewardship group. All waste types and volumes generated under this action,

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and waste containers used were recorded in the Waste and Environmental Management System (WEMS) database, which is used to track and control storage and movement of waste packages on Site, and shipments to off-site facilities.

10.0 SITE RECLAMATION

After removal activities were completed, backfilling of the Building 883 excavation commenced. The gravel that had been removed to allow structural features to be removed is being mixed with clean soil and put back into the excavation. The source of clean soil is Functional Channel 1. After backfilling is completed and final site grade is achieved, the area will be seeded.

11.0 NO LONGER REPRESENTATIVE SAMPLING LOCATIONS

Soil was not removed as part of this accelerated action. There are no NLR locations to report.

12.0 DATA QUALITY ASSESSMENT

The data quality objectives (DQOs) for this project are described in the IASAP (DOE 2001) and IABZSAP (DOE 2004a). All DQOs for this project were achieved based on the following:

- Regulatory agency-approved sampling program design (IASAP Addendum #IA-04-06 [DOE 2004b]), modified due to field conditions, in accordance with the IASAP (DOE 2001) and IABZSAP (DOE 2004a);
- Collection of samples in accordance with the sampling design; and
- Results of the DQA, as described in the following sections.

12.1 Data Quality Assessment Process

The DQA process ensures that the type, quantity, and quality of environmental data used in decision making are defensible, and is based on the following guidance and requirements:

- U.S. Environmental Protection Agency (EPA), 1994a, Guidance for the Data Quality Objective Process, QA/G-4;
- EPA, 1998, Guidance for the Data Quality Assessment Process, Practical Methods for Data Analysis, QA/G-9; and
- U.S. Department of Energy (DOE), 1999, Quality Assurance, Order 414.1A.

Verification and validation (V&V) of data are the primary components of the DQA. The final data are compared with original project DQOs and evaluated with respect to project decisions; uncertainty within the decisions; and quality criteria required for the data, specifically precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS).

Validation criteria are consistent with the following RFETS-specific documents and industry guidelines:

- EPA, 1994b, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, 540/R-94/012;
- EPA, 1994c, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, 540/R-94/013;

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- Kaiser-Hill Company, L.L.C. (K-H), 2002a, General Guidelines for Data Verification and Validation, DA-GR01-v2, October;
- K-H, 2002b, V&V Guidelines for Isotopic Determinations by Alpha Spectrometry, DA-RC01-v2, October;
- K-H, 2002c, V&V Guidelines for Volatile Organics, DA-SS01-v3, October;
- K-H, 2002d, V&V Guidelines for Semivolatile Organics, DA-SS02-v3, October;
- K-H, 2002e, V&V Guidelines for Metals, DA-SS05-v3, October; and
- Lockheed-Martin, 1997, Evaluation of Radiochemical Data Usability, ES/ER/MS-5.

This report will be submitted to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) AR for permanent storage 30 days after being provided to CDPHE and/or EPA.

12.2 Verification and Validation of Results

Verification ensures that data produced and used by the project are documented and traceable in accordance with quality requirements. Validation consists of a technical review of all data that directly support the project decisions so that any limitations of the data relative to project goals are delineated and the associated data are qualified accordingly. The V&V process defines the criteria that constitute data quality, namely PARCCS parameters. Data traceability and archival are also addressed. V&V criteria include the following:

- Chain-of-custody;
- Preservation and hold times;
- Instrument calibrations;
- Preparation blanks;
- Interference check samples (metals);
- Matrix spikes/matrix spike duplicates (MS/MSDs);
- Laboratory control samples (LCSs);
- Field duplicate measurements;
- Chemical yield (radiochemistry);
- Required quantitation limits/minimum detectable activities (sensitivity of chemical and radiochemical measurements, respectively); and
- Sample analysis and preparation methods.

Evaluation of V&V criteria ensures that PARCCS parameters are satisfactory (that is, within tolerances acceptable to the project). Satisfactory V&V of laboratory quality controls are captured through application of validation "flags" or qualifiers to individual records.

Raw hard-copy data (for example, individual analytical data packages) are currently filed by report identification number and maintained by K-H Analytical Services Division; older hard

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copies may reside in the Federal Center in Lakewood, Colorado. Electronic data are stored in SWD.

Both real and QC data are included on the enclosed CD.

12.2.1 Accuracy

The following measures of accuracy were evaluated:

- LCSs;
- Surrogates;
- Field blanks; and
- Sample MSs.

Results are compared to method requirements and project goals. The results of these comparisons are summarized for RFCA COCs where the result could impact project decisions. Particular attention is paid to those values near ALs when QC results could indicate unacceptable levels of uncertainty for decision-making purposes.

Laboratory Control Sample Evaluation

As indicated in Table 10, LCS analyses were run for all methods except gamma spectroscopy. When the In-Situ Counting System technique is used for gamma spectroscopy, an internal standard approach is used instead of LCSs. The onsite laboratory that performs gamma spectroscopy is therefore not required to provide LCS data.

Table 10
LCS Summary

Test Method	Lab Batch	Laboratory Control Sample
ALPHA SPEC	359969	Yes
ALPHA SPEC	359970	Yes
ALPHA SPEC	359971	Yes
ALPHA SPEC	4128394	Yes
ALPHA SPEC	4128397	Yes
ALPHA SPEC	4128399	Yes
ALPHA SPEC	4131104	Yes
ALPHA SPEC	4131111	Yes
ALPHA SPEC	4131113	Yes
ALPHA SPEC	4306544	Yes
ALPHA SPEC	4306545	Yes
ALPHA SPEC	4306546	Yes
ALPHA SPEC	4328194	Yes
ALPHA SPEC	4328196	Yes
ALPHA SPEC	4328197	Yes
ALPHA SPEC	4334398	Yes
ALPHA SPEC	4334400	Yes
ALPHA SPEC	4334403	Yes
ALPHA SPEC	4352580	Yes

Test Method	Lab Batch	Laboratory Control Sample
ALPHA SPEC	4352586	Yes
ALPHA SPEC	4352588	Yes
ALPHA SPEC	5069439	Yes
ALPHA SPEC	5069442	Yes
ALPHA SPEC	5069446	Yes
ALPHA SPEC	5075471	Yes
ALPHA SPEC	5075472	Yes
ALPHA SPEC	5075473	Yes
ALPHA SPEC	5099077	Yes
ALPHA SPEC	5099078	Yes
ALPHA SPEC	5099079	Yes
ALPHA SPEC	5103466	Yes
ALPHA SPEC	5103469	Yes
ALPHA SPEC	5103470	Yes
ALPHA SPEC	5113101	Yes
ALPHA SPEC	5116456	Yes
ALPHA SPEC	5116459	Yes
SW-846 6010	3259526	Yes
SW-846 6010	3259550	Yes
SW-846 6010	4121298	Yes
SW-846 6010	4124152	Yes
SW-846 6010	4125247	Yes
SW-846 6010	4126505	Yes
SW-846 6010	4232623	Yes
SW-846 6010	4233203	Yes
SW-846 6010	4237649	Yes
SW-846 6010	4238316	Yes
SW-846 6010	4239621	Yes
SW-846 6010	4245147	Yes
SW-846 6010	4245609	Yes
SW-846 6010	4246575	Yes
SW-846 6010	4251245	Yes
SW-846 6010	4272625	Yes
SW-846 6010	4278425	Yes
SW-846 6010	4302619	Yes
SW-846 6010	4303432	Yes
SW-846 6010	4328406	Yes
SW-846 6010	4329319	Yes
SW-846 6010	4329640	Yes
SW-846 6010	4349535	Yes
SW-846 6010	4350224	Yes
SW-846 6010	4351669	Yes
SW-846 6010	4352502	Yes
SW-846 6010	5010451	Yes

Test Method	Lab Batch	Laboratory Control Sample
SW-846 6010	5011407	Yes
SW-846 6010	5012189	Yes
SW-846 6010	5076487	Yes
SW-846 6010	5077183	Yes
SW-846 6010	5095549	Yes
SW-846 6010	5096167	Yes
SW-846 6010	5101477	Yes
SW-846 6010	5102159	Yes
SW-846 6010	5109586	Yes
SW-846 6010	5111217	Yes
SW-846 8082	5074416	Yes
SW-846 8260	4122023	Yes
SW-846 8260	4126369	Yes
SW-846 8260	4233251	Yes
SW-846 8260	4355369	Yes
SW-846 8260	5097140	Yes
SW-846 8260	MS1 VOA_040817A	Yes
SW-846 8260	MS1 VOA_040826A	Yes
SW-846 8260	MS1 VOA_040830A	Yes
SW-846 8260	MS1 VOA_040923A	Yes
SW-846 8260	MS1 VOA_041209A	Yes
SW-846 8260	MS1 VOA_041213A	Yes
SW-846 8260	MS1 VOA_050106A	Yes
SW-846 8260	MS1 VOA_050106B	Yes
SW-846 8260	MS1 VOA_050307A	Yes
SW-846 8260	MS1 VOA_050401A	Yes
SW-846 8260	MS1 VOA_050406A	Yes
SW-846 8260	MS2 VOA_050316A	Yes
SW-846 8260	MS2 VOA_050330A	Yes
SW-846 8260	MS3 VOA_040819A	Yes
SW-846 8260	MS3 VOA_040819B	Yes
SW-846 8260	MS3 VOA_040831A	Yes
SW-846 8260	MS3 VOA_041026A	Yes
SW-846 8270	3259546	Yes
SW-846 8270	4232570	Yes
SW-846 8270	4236581	Yes
SW-846 8270	4237440	Yes
SW-846 8270	4237627	Yes
SW-846 8270	4244469	Yes
SW-846 8270	4245529	Yes
SW-846 8270	4246557	Yes
SW-846 8270	4278418	Yes
SW-846 8270	4307245	Yes
SW-846 8270	4350443	Yes

Test Method	Lab Batch	Laboratory Control Sample
SW-846 8270	4352635	Yes
SW-846 8270	5011350	Yes
SW-846 8270	5012360	Yes
SW-846 8270	5095563	Yes
SW-846 8270	5097666	Yes
SW-846 8270	5101512	Yes
SW-846 8270	5105373	Yes

The minimum and maximum LCS results are tabulated, by chemical, for the entire project in Table 11. LCS results that were outside of tolerances were reviewed to determine whether a potential bias might be indicated. LCS recoveries are not indicative of matrix effects because they are not prepared using site samples. LCS results do indicate whether the laboratory may be introducing a bias in the results. Recoveries reported above the upper limit may indicate the actual sample results are less than reported. Because this is environmentally conservative, no further action is needed. The analytes with unacceptable low recoveries were evaluated. If the highest sample result divided by the lowest LCS recovery for that analyte is less than the AL, no further action is taken because any indicated bias is not great enough to affect project decisions. As a result of this analysis, the LCS recoveries for this project did not impact project decisions. The maximum benzo(a)pyrene concentration fails the above test; however, it occurs at 9.0 – 9.3 ft bgs.

Table 11
LCS Evaluation Summary

Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit
SW-846 8260	71-55-6	1,1,1-Trichloroethane	81	116.1	%REC
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	90	119.6	%REC
SW-846 8260	79-00-5	1,1,2-Trichloroethane	87	111.1	%REC
SW-846 8260	75-34-3	1,1-Dichloroethane	91	111.6	%REC
SW-846 8260	75-35-4	1,1-Dichloroethene	87.26	121	%REC
SW-846 8270	120-82-1	1,2,4-Trichlorobenzene	60	82	%REC
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	79	124.3	%REC
SW-846 8260	95-50-1	1,2-Dichlorobenzene	84	116.4	%REC
SW-846 8260	107-06-2	1,2-Dichloroethane	79	111	%REC
SW-846 8260	78-87-5	1,2-Dichloropropane	89.94	106.7	%REC
SW-846 8260	106-46-7	1,4-Dichlorobenzene	79	117.7	%REC
SW-846 8270	95-95-4	2,4,5-Trichlorophenol	63	94	%REC
SW-846 8270	88-06-2	2,4,6-Trichlorophenol	61	87	%REC
SW-846 8270	120-83-2	2,4-Dichlorophenol	60	84	%REC
SW-846 8270	105-67-9	2,4-Dimethylphenol	62	82	%REC
SW-846 8270	51-28-5	2,4-Dinitrophenol	41	81	%REC
SW-846 8270	121-14-2	2,4-Dinitrotoluene	64	98	%REC
SW-846 8270	606-20-2	2,6-Dinitrotoluene	63	91	%REC
SW-846 8260	78-93-3	2-Butanone	72.05	144.4	%REC
SW-846 8270	91-58-7	2-Chloronaphthalene	62	85	%REC
SW-846 8270	95-57-8	2-Chlorophenol	64	83	%REC

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Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit
SW-846 8270	91-57-6	2-Methylnaphthalene	62	86	%REC
SW-846 8270	95-48-7	2-Methylphenol	64	84	%REC
SW-846 8270	88-74-4	2-Nitroaniline	64	86	%REC
SW-846 8270	91-94-1	3,3'-Dichlorobenzidine	24	73	%REC
SW-846 8270	534-52-1	4,6-Dinitro-2-methylphenol	50	80	%REC
SW-846 8270	106-47-8	4-Chloroaniline	34	68	%REC
SW-846 8260	108-10-1	4-Methyl-2-pentanone	71.1	115	%REC
SW-846 8270	106-44-5	4-Methylphenol	66	87	%REC
SW-846 8270	100-02-7	4-Nitrophenol	56	95	%REC
SW-846 8270	83-32-9	Acenaphthene	61	83	%REC
SW-846 8260	67-64-1	Acetone	70.7	186.9	%REC
SW-846 6010	7429-90-5	Aluminum	87	105	%REC
SW-846 8270	120-12-7	Anthracene	64	90	%REC
SW-846 6010	7440-36-0	Antimony	82	100	%REC
SW-846 8082	12674-11-2	Aroclor-1016	94	94	%REC
SW-846 8082	11096-82-5	Aroclor-1260	96	96	%REC
SW-846 6010	7440-38-2	Arsenic	84	100	%REC
SW-846 6010	7440-39-3	Barium	89	106	%REC
SW-846 8260	71-43-2	Benzene	92.75	110.4	%REC
SW-846 8270	56-55-3	Benzo(a)anthracene	61	89	%REC
SW-846 8270	50-32-8	Benzo(a)pyrene	62	82	%REC
SW-846 8270	205-99-2	Benzo(b)fluoranthene	61	88	%REC
SW-846 8270	207-08-9	Benzo(k)fluoranthene	63	91	%REC
SW-846 8270	65-85-0	Benzoic Acid	26	68	%REC
SW-846 8270	100-51-6	Benzyl Alcohol	58	80	%REC
SW-846 6010	7440-41-7	Beryllium	90	106	%REC
SW-846 8270	111-44-4	bis(2-Chloroethyl)ether	61	90	%REC
SW-846 8270	39638-32-9	bis(2-Chloroisopropyl)ether	58	80	%REC
SW-846 8270	117-81-7	bis(2-Ethylhexyl)phthalate	60	128	%REC
SW-846 8260	75-27-4	Bromodichloromethane	84	106	%REC
SW-846 8260	75-25-2	Bromoform	85.25	105	%REC
SW-846 8260	74-83-9	Bromomethane	66.98	109	%REC
SW-846 8270	85-68-7	Butylbenzylphthalate	61	89	%REC
SW-846 6010	7440-43-9	Cadmium	87	102	%REC
SW-846 8260	75-15-0	Carbon Disulfide	58	168.2	%REC
SW-846 8260	56-23-5	Carbon Tetrachloride	78	116	%REC
SW-846 8260	108-90-7	Chlorobenzene	85	112.6	%REC
SW-846 8260	75-00-3	Chloroethane	86.42	120	%REC
SW-846 8260	67-66-3	Chloroform	83.35	113.6	%REC
SW-846 8260	74-87-3	Chloromethane	72.2	120.6	%REC
SW-846 6010	7440-47-3	Chromium	90	103	%REC
SW-846 8270	218-01-9	Chrysene	60	85	%REC
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	88.23	109.8	%REC
SW-846 6010	7440-48-4	Cobalt	87	101	%REC
SW-846 6010	7440-50-8	Copper	85	103	%REC

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Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit
SW-846 8270	84-74-2	Di-n-butylphthalate	66	97	%REC
SW-846 8270	117-84-0	Di-n-octylphthalate	59	84	%REC
SW-846 8270	53-70-3	Dibenz(a,h)anthracene	52	86	%REC
SW-846 8270	132-64-9	Dibenzofuran	64	91	%REC
SW-846 8260	124-48-1	Dibromochloromethane	88	106	%REC
SW-846 8270	84-66-2	Diethylphthalate	62	93	%REC
SW-846 8270	131-11-3	Dimethylphthalate	63	94	%REC
SW-846 8260	100-41-4	Ethylbenzene	84	113.5	%REC
SW-846 8270	206-44-0	Fluoranthene	65	91	%REC
SW-846 8270	86-73-7	Fluorene	63	88	%REC
SW-846 8270	118-74-1	Hexachlorobenzene	62	93	%REC
SW-846 8260	87-68-3	Hexachlorobutadiene	78	134.5	%REC
SW-846 8270	87-68-3	Hexachlorobutadiene	59	83	%REC
SW-846 8270	77-47-4	Hexachlorocyclopentadiene	48	106	%REC
SW-846 8270	67-72-1	Hexachloroethane	61	83	%REC
SW-846 8270	193-39-5	Indeno(1,2,3-cd)pyrene	52	87	%REC
SW-846 6010	7439-89-6	Iron	91	106	%REC
SW-846 8270	78-59-1	Isophorone	62	83	%REC
SW-846 6010	7439-92-1	Lead	88	101	%REC
SW-846 6010	7439-93-2	Lithium	89	107	%REC
SW-846 6010	7439-96-5	Manganese	86	102	%REC
SW-846 6010	7439-97-6	Mercury	95	110	%REC
SW-846 8260	75-09-2	Methylene chloride	89.98	108.5	%REC
SW-846 6010	7439-98-7	Molybdenum	87	100	%REC
SW-846 8270	86-30-6	n-Nitrosodiphenylamine	69	101	%REC
SW-846 8270	621-64-7	n-Nitrosodipropylamine	66	83	%REC
SW-846 8270	91-20-3	Naphthalene	60	80	%REC
SW-846 8260	91-20-3	Naphthalene	84	120.5	%REC
SW-846 6010	7440-02-0	Nickel	88	101	%REC
SW-846 8270	98-95-3	Nitrobenzene	65	84	%REC
SW-846 8270	87-86-5	Pentachlorophenol	49	78	%REC
SW-846 8270	108-95-2	Phenol	65	85	%REC
SW-846 8270	129-00-0	Pyrene	54	89	%REC
SW-846 6010	7782-49-2	Selenium	82	100	%REC
SW-846 6010	7440-22-4	Silver	87	105	%REC
SW-846 6010	7440-24-6	Strontium	89	103	%REC
SW-846 8260	100-42-5	Styrene	88	109.5	%REC
SW-846 8260	127-18-4	Tetrachloroethene	74	121.8	%REC
SW-846 6010	7440-31-5	Tin	82	99	%REC
SW-846 8260	108-88-3	Toluene	90	113.8	%REC
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	92	122.2	%REC
SW-846 8260	79-01-6	Trichloroethene	88.62	111.9	%REC
SW-846 6010	11-09-6	Uranium, Total	90	107	%REC
SW-846 6010	7440-62-2	Vanadium	90	103	%REC
SW-846 8260	75-01-4	Vinyl chloride	80	126.1	%REC

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Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit
SW-846 8260	1330-20-7	Xylene	87	115	%REC
SW-846 6010	7440-66-6	Zinc	82	104	%REC

Surrogate Evaluation

The frequency of surrogate measurements, relative to each laboratory batch, is given in Table 12. Surrogate frequency was adequate based on at least one set per sample. The minimum and maximum surrogate results are also tabulated, by chemical, for the entire project. Surrogates are added to every sample, and therefore, surrogate recoveries only impact individual samples. Unacceptable surrogate recoveries can indicate potential matrix effects. The highest and lowest surrogate recoveries for this project were reviewed, and no results affected project decisions. All organic compounds with surrogate recoveries had concentrations less than reporting limits, except for toluene. However, toluene concentrations were well below the WRW AL.

Table 12
Surrogate Recovery Summary

No. of Samples	CAS	Analyte	Minimum	Maximum	Unit
VOC Surrogates					
35	460-00-4	4-Bromofluorobenzene	83.75	121.5	%REC
35	17060-07-0	Deuterated 1,2-dichloroethane	82	130.4	%REC
35	2037-26-5	Deuterated Toluene	92.73	112	%REC
SVOC Surrogates					
31	321-60-8	2-Fluorobiphenyl	53	86	%REC
31	367-12-4	2-Fluorophenol	4.2	86	%REC
31	4165-60-0	Deuterated Nitrobenzene	49	84	%REC
31	1718-51-0	p-Terphenyl-d14	49	95	%REC

Field Blank Evaluation

Results of the field blank analyses are given in Table 13. Detectable amounts of contaminants within the blanks, which could indicate possible cross-contamination of samples, are evaluated if the same contaminant is detected in the associated real samples. When the real result is less than 10 times the blank result for laboratory contaminants and 5 times the result for non-laboratory contaminants, the real result is eliminated. None of the chemicals were detected in the blanks at concentrations greater than one-tenth the AL. Therefore, blank contamination did not adversely impact project decisions.

Table 13
Field Blank Summary

Laboratory	CAS	Analyte	Sample QC Code	Detected Result	Unit
GEL_HR	106-46-7	1,4-Dichlorobenzene	TB	1.3	ug/L
ESTLDEN	78-93-3	2-Butanone	TB	8.8	ug/L
ESTLDEN	78-93-3	2-Butanone	FB	3	ug/L
GEL_HR	67-64-1	Acetone	TB	11.9	ug/L
ESTLDEN	67-64-1	Acetone	TB	67	ug/L
SWRCH_VHR	67-64-1	Acetone	TB	6.9	ug/L

Laboratory	CAS	Analyte	Sample QC Code	Detected Result	Unit
ESTLDEN	67-64-1	Acetone	FB	26	ug/L
ESTLDEN	7429-90-5	Aluminum	RNS	0.029	mg/L
ESTLDEN	7429-90-5	Aluminum	FB	0.03	mg/L
ESTLDEN	14596-10-2	Americium-241	FB	0.034	pCi/L
ESTLDEN	7440-39-3	Barium	RNS	0.0066	mg/L
ESTLDEN	7440-39-3	Barium	FB	0.00098	mg/L
URS	56-23-5	Carbon Tetrachloride	FB	36.2	ug/L
URS	56-23-5	Carbon Tetrachloride	RNS	2.8	ug/L
URS	56-23-5	Carbon Tetrachloride	TB	35.6	ug/L
URS	67-66-3	Chloroform	TB	1.7	ug/L
URS	67-66-3	Chloroform	FB	1.7	ug/L
ESTLDEN	7440-50-8	Copper	FB	0.019	mg/L
ESTLDEN	7440-50-8	Copper	RNS	0.0015	mg/L
ESTLDEN	84-66-2	Diethylphthalate	RNS	1.2	ug/L
ESTLDEN	7439-89-6	Iron	FB	0.031	mg/L
ESTLDEN	7439-92-1	Lead	FB	0.003	mg/L
ESTLDEN	7439-93-2	Lithium	FB	0.0012	mg/L
ESTLDEN	7439-93-2	Lithium	RNS	0.0017	mg/L
ESTLDEN	7439-96-5	Manganese	FB	0.00069	mg/L
ESTLDEN	7439-96-5	Manganese	RNS	0.0017	mg/L
ESTLDEN	7439-97-6	Mercury	FB	0.00014	mg/L
ESTLDEN	75-09-2	Methylene chloride	TB	0.57	ug/L
ESTLDEN	75-09-2	Methylene chloride	FB	0.42	ug/L
SWRCH_VHR	75-09-2	Methylene chloride	TB	1.3	ug/L
ESTLDEN	7439-98-7	Molybdenum	FB	0.0025	mg/L
URS	91-20-3	Naphthalene	FB	1.7	ug/L
URS	91-20-3	Naphthalene	RNS	1.5	ug/L
URS	91-20-3	Naphthalene	TB	1.7	ug/L
ESTLDEN	91-20-3	Naphthalene	TB	0.75	ug/L
ESTLDEN	10-12-8	Plutonium-239/240	FB	0.0593	pCi/L
ESTLDEN	7440-24-6	Strontium	FB	0.0013	mg/L
ESTLDEN	7440-24-6	Strontium	RNS	0.0033	mg/L
URS	127-18-4	Tetrachloroethene	FB	0.99	ug/L
URS	108-88-3	Toluene	FB	1	ug/L
URS	108-88-3	Toluene	TB	1.7	ug/L
ESTLDEN	108-88-3	Toluene	TB	0.42	ug/L
ESTLDEN	79-01-6	Trichloroethene	TB	0.25	ug/L
URS	15117-96-1	Uranium-235	RNS	0.223	pCi/g
URS	15117-96-1	Uranium-235	FB	0.199	pCi/g
URS	7440-61-1	Uranium-238	RNS	3.31	pCi/g
URS	7440-61-1	Uranium-238	FB	3.38	pCi/g
ESTLDEN	7440-66-6	Zinc	FB	0.014	mg/L
ESTLDEN	7440-66-6	Zinc	RNS	0.0089	mg/L

Sample Matrix Spike Evaluation

The minimum and maximum MS results are summarized by chemical for the entire project in Table 14. Two metals, iron and manganese, had a lower range of 0. Several SVOCs had low recoveries and these records were rejected. Organic analytes with unacceptable low recoveries resulted in a review of the LCS recoveries. According to the EPA data validation guidelines (EPA 1994b), if organic MS recoveries are low, the data reviewer may use the MS and MSD results in conjunction with other QC criteria. For this project, the LCS recoveries were checked, and these checks indicate no decisions were impacted for organic analytes. For inorganics, the associated maximum sample results were divided by the lowest percent recovery for each analyte. If the resulting number was less than the AL, decisions were not impacted, and no action was taken. For this project, all results were well below RFCA WRW ALs.

Table 14
Sample MS Evaluation Summary

Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit	No. of Samples	No. of Lab Batches
SW-846 8260	71-55-6	1,1,1-Trichloroethane	82.08	117	%REC	12	12
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	1.121	111	%REC	12	12
SW-846 8260	79-00-5	1,1,2-Trichloroethane	82	103	%REC	12	12
SW-846 8260	75-34-3	1,1-Dichloroethane	82.38	104	%REC	12	12
SW-846 8260	75-35-4	1,1-Dichloroethene	79.04	106	%REC	12	12
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	37.12	89.92	%REC	12	12
SW-846 8270	120-82-1	1,2,4-Trichlorobenzene	55	79	%REC	11	11
SW-846 8260	95-50-1	1,2-Dichlorobenzene	69.09	98.51	%REC	12	12
SW-846 8260	107-06-2	1,2-Dichloroethane	83.04	120	%REC	12	12
SW-846 8260	78-87-5	1,2-Dichloropropane	84.43	107	%REC	12	12
SW-846 8260	106-46-7	1,4-Dichlorobenzene	67.67	99.14	%REC	12	12
SW-846 8270	95-95-4	2,4,5-Trichlorophenol	5	83	%REC	11	11
SW-846 8270	88-06-2	2,4,6-Trichlorophenol	5.1	83	%REC	11	11
SW-846 8270	120-83-2	2,4-Dichlorophenol	4.7	80	%REC	11	11
SW-846 8270	105-67-9	2,4-Dimethylphenol	62	82	%REC	11	11
SW-846 8270	51-28-5	2,4-Dinitrophenol	18	67	%REC	11	11
SW-846 8270	121-14-2	2,4-Dinitrotoluene	68	96	%REC	11	11
SW-846 8270	606-20-2	2,6-Dinitrotoluene	67	90	%REC	11	11
SW-846 8260	78-93-3	2-Butanone	60.27	120	%REC	12	12
SW-846 8270	91-58-7	2-Chloronaphthalene	61	82	%REC	11	11
SW-846 8270	95-57-8	2-Chlorophenol	6.5	80	%REC	11	11
SW-846 8270	91-57-6	2-Methylnaphthalene	63	84	%REC	11	11
SW-846 8270	95-48-7	2-Methylphenol	56	81	%REC	11	11
SW-846 8270	88-74-4	2-Nitroaniline	61	84	%REC	11	11
SW-846 8270	91-94-1	3,3'-Dichlorobenzidine	27	82	%REC	11	11
SW-846 8270	534-52-1	4,6-Dinitro-2-methylphenol	23	80	%REC	11	11
SW-846 8270	106-47-8	4-Chloroaniline	40	74	%REC	11	11
SW-846 8260	108-10-1	4-Methyl-2-pentanone	81.27	115.2	%REC	12	12
SW-846 8270	106-44-5	4-Methylphenol	44	83	%REC	11	11
SW-846 8270	100-02-7	4-Nitrophenol	0	87	%REC	11	11

Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit	No. of Samples	No. of Lab Batches
SW-846 8270	83-32-9	Acenaphthene	61	81	%REC	11	11
SW-846 8260	67-64-1	Acetone	47.05	141.7	%REC	12	12
SW-846 6010	7429-90-5	Aluminum	2020	10800	%REC	12	12
SW-846 8270	120-12-7	Anthracene	64	87	%REC	11	11
SW-846 6010	7440-36-0	Antimony	28	61	%REC	12	12
SW-846 8082	12674-11-2	Aroclor-1016	66	66	%REC	1	1
SW-846 8082	11096-82-5	Aroclor-1260	123	123	%REC	1	1
SW-846 6010	7440-38-2	Arsenic	82	93	%REC	12	12
SW-846 6010	7440-39-3	Barium	89	148	%REC	12	12
SW-846 8260	71-43-2	Benzene	84.06	110	%REC	12	12
SW-846 8270	56-55-3	Benzo(a)anthracene	59	79	%REC	11	11
SW-846 8270	50-32-8	Benzo(a)pyrene	58	80	%REC	11	11
SW-846 8270	205-99-2	Benzo(b)fluoranthene	59	82	%REC	11	11
SW-846 8270	207-08-9	Benzo(k)fluoranthene	55	76	%REC	11	11
SW-846 8270	65-85-0	Benzoic Acid	0	105	%REC	11	11
SW-846 8270	100-51-6	Benzyl Alcohol	36	77	%REC	11	11
SW-846 6010	7440-41-7	Beryllium	87	104	%REC	12	12
SW-846 8270	111-44-4	bis(2-Chloroethyl)ether	55	135	%REC	11	11
SW-846 8270	39638-32-9	bis(2-Chloroisopropyl)ether	49	76	%REC	11	11
SW-846 8270	117-81-7	bis(2-Ethylhexyl)phthalate	56	87	%REC	11	11
SW-846 8260	75-27-4	Bromodichloromethane	84.31	114	%REC	12	12
SW-846 8260	75-25-2	Bromoform	88	107.1	%REC	12	12
SW-846 8260	74-83-9	Bromomethane	76	142.4	%REC	12	12
SW-846 8270	85-68-7	Butylbenzylphthalate	62	86	%REC	11	11
SW-846 6010	7440-43-9	Cadmium	54	95	%REC	12	12
SW-846 8260	75-15-0	Carbon Disulfide	50	85	%REC	12	12
SW-846 8260	56-23-5	Carbon Tetrachloride	82.18	113	%REC	12	12
SW-846 8260	108-90-7	Chlorobenzene	78.85	97.63	%REC	12	12
SW-846 8260	75-00-3	Chloroethane	77	111.3	%REC	12	12
SW-846 8260	67-66-3	Chloroform	81.06	115	%REC	12	12
SW-846 8260	74-87-3	Chloromethane	75	120.9	%REC	12	12
SW-846 6010	7440-47-3	Chromium	82	167	%REC	12	12
SW-846 8270	218-01-9	Chrysene	54	79	%REC	11	11
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	82.08	114	%REC	12	12
SW-846 6010	7440-48-4	Cobalt	81	99	%REC	12	12
SW-846 6010	7440-50-8	Copper	52	1190	%REC	12	12
SW-846 8270	84-74-2	Di-n-butylphthalate	68	89	%REC	11	11
SW-846 8270	117-84-0	Di-n-octylphthalate	60	89	%REC	11	11
SW-846 8270	53-70-3	Dibenz(a,h)anthracene	60	82	%REC	11	11
SW-846 8270	132-64-9	Dibenzofuran	65	87	%REC	11	11
SW-846 8260	124-48-1	Dibromochloromethane	85.45	101	%REC	12	12
SW-846 8270	84-66-2	Diethylphthalate	63	87	%REC	11	11
SW-846 8270	131-11-3	Dimethylphthalate	64	86	%REC	11	11
SW-846 8260	100-41-4	Ethylbenzene	80.42	100.9	%REC	12	12

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Test Method	CAS No.	Analyte	Min. of Result	Max. of Result	Result Unit	No. of Samples	No. of Lab Batches
SW-846 8270	206-44-0	Fluoranthene	39	87	%REC	11	11
SW-846 8270	86-73-7	Fluorene	62	83	%REC	11	11
SW-846 8270	118-74-1	Hexachlorobenzene	67	87	%REC	11	11
SW-846 8260	87-68-3	Hexachlorobutadiene	48.19	92	%REC	12	12
SW-846 8270	87-68-3	Hexachlorobutadiene	59	80	%REC	11	11
SW-846 8270	77-47-4	Hexachlorocyclopentadiene	41	96	%REC	11	11
SW-846 8270	67-72-1	Hexachloroethane	58	77	%REC	11	11
SW-846 8270	193-39-5	Indeno(1,2,3-cd)pyrene	56	80	%REC	11	11
SW-846 6010	7439-89-6	Iron	0	6370	%REC	12	12
SW-846 8270	78-59-1	Isophorone	57	80	%REC	11	11
SW-846 6010	7439-92-1	Lead	70	95	%REC	12	12
SW-846 6010	7439-93-2	Lithium	95	111	%REC	12	12
SW-846 6010	7439-96-5	Manganese	0	503	%REC	12	12
SW-846 6010	7439-97-6	Mercury	69	101	%REC	6	6
SW-846 8260	75-09-2	Methylene chloride	81.79	104.2	%REC	12	12
SW-846 6010	7439-98-7	Molybdenum	75	92	%REC	12	12
SW-846 8270	86-30-6	n-Nitrosodiphenylamine	70	98	%REC	11	11
SW-846 8270	621-64-7	n-Nitrosodipropylamine	57	81	%REC	11	11
SW-846 8260	91-20-3	Naphthalene	57.35	95.25	%REC	12	12
SW-846 8270	91-20-3	Naphthalene	59	82	%REC	11	11
SW-846 6010	7440-02-0	Nickel	83	111	%REC	12	12
SW-846 8270	98-95-3	Nitrobenzene	56	79	%REC	11	11
SW-846 8270	87-86-5	Penachlorophenol	6.3	75	%REC	11	11
SW-846 8270	108-95-2	Phenol	36	83	%REC	11	11
SW-846 8270	129-00-0	Pyrene	52	78	%REC	11	11
SW-846 6010	7782-49-2	Selenium	80	95	%REC	12	12
SW-846 6010	7440-22-4	Silver	82	97	%REC	12	12
SW-846 6010	7440-24-6	Strontium	66	128	%REC	12	12
SW-846 8260	100-42-5	Styrene	82.34	99.14	%REC	12	12
SW-846 8260	127-18-4	Tetrachloroethene	73.27	96.24	%REC	12	12
SW-846 6010	7440-31-5	Tin	77	92	%REC	12	12
SW-846 8260	108-88-3	Toluene	79.51	103	%REC	12	12
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	74.82	111	%REC	12	12
SW-846 8260	79-01-6	Trichloroethene	82.79	169.8	%REC	12	12
SW-846 6010	11-09-6	Uranium, Total	85	105	%REC	11	11
SW-846 6010	7440-62-2	Vanadium	92	176	%REC	12	12
SW-846 8260	75-01-4	Vinyl chloride	74	112.3	%REC	12	12
SW-846 8260	1330-20-7	Xylene	76.76	101.1	%REC	12	12
SW-846 6010	7440-66-6	Zinc	76	311	%REC	12	12

12.2.2 Precision

Sample Matrix Spike Duplicate Evaluation

Laboratory precision is measured through use of MSDs, as summarized in Table 15. Analytes with the highest relative percent differences (RPDs) were reviewed by comparing the highest sample result to the WRW AL. Several SVOC RPDs were significantly greater than 35%. These records were rejected. Several metal RPDs including aluminum, barium, chromium, copper, iron, manganese, and zinc were greater than 35 percent. For the metals this is likely due to sample heterogeneity. For analytes with RPDs greater than 35 percent, if the highest sample concentrations were sufficiently below the AL, no further action is needed. For this project, the review indicated decisions were not impacted.

Table 15
Sample MSD Evaluation Summary

Test Method	CAS No.	Analyte	Max. of RPD
SW-846 8260	71-55-6	1,1,1-Trichloroethane	11.81
SW-846 8260	79-34-5	1,1,2,2-Tetrachloroethane	72.88
SW-846 8260	79-00-5	1,1,2-Trichloroethane	13.31
SW-846 8260	75-34-3	1,1-Dichloroethane	10.28
SW-846 8260	75-35-4	1,1-Dichloroethene	11.33
SW-846 8270	120-82-1	1,2,4-Trichlorobenzene	12.70
SW-846 8260	120-82-1	1,2,4-Trichlorobenzene	30.93
SW-846 8260	95-50-1	1,2-Dichlorobenzene	24.31
SW-846 8260	107-06-2	1,2-Dichloroethane	14.33
SW-846 8260	78-87-5	1,2-Dichloropropane	10.13
SW-846 8260	106-46-7	1,4-Dichlorobenzene	24.66
SW-846 8270	95-95-4	2,4,5-Trichlorophenol	200.00
SW-846 8270	88-06-2	2,4,6-Trichlorophenol	200.00
SW-846 8270	120-83-2	2,4-Dichlorophenol	200.00
SW-846 8270	105-67-9	2,4-Dimethylphenol	12.90
SW-846 8270	51-28-5	2,4-Dinitrophenol	200.00
SW-846 8270	121-14-2	2,4-Dinitrotoluene	17.32
SW-846 8270	606-20-2	2,6-Dinitrotoluene	15.20
SW-846 8260	78-93-3	2-Butanone	14.18
SW-846 8270	91-58-7	2-Chloronaphthalene	16.13
SW-846 8270	95-57-8	2-Chlorophenol	92.13
SW-846 8270	91-57-6	2-Methylnaphthalene	14.71
SW-846 8270	95-48-7	2-Methylphenol	17.60
SW-846 8270	88-74-4	2-Nitroaniline	14.81
SW-846 8270	91-94-1	3,3'-Dichlorobenzidine	17.05
SW-846 8270	534-52-1	4,6-Dinitro-2-methylphenol	30.00
SW-846 8270	106-47-8	4-Chloroaniline	17.54
SW-846 8260	108-10-1	4-Methyl-2-pentanone	16.32
SW-846 8270	106-44-5	4-Methylphenol	20.90
SW-846 8270	100-02-7	4-Nitrophenol	22.22

Test Method	CAS No.	Analyte	Max. of RPD
SW-846 8270	83-32-9	Acenaphthene	14.29
SW-846 8260	67-64-1	Acetone	15.62
SW-846 6010	7429-90-5	Aluminum	165.68
SW-846 8270	120-12-7	Anthracene	15.38
SW-846 6010	7440-36-0	Antimony	17.86
SW-846 8082	12674-11-2	Aroclor-1016	11.20
SW-846 8082	11096-82-5	Aroclor-1260	3.20
SW-846 6010	7440-38-2	Arsenic	3.73
SW-846 6010	7440-39-3	Barium	124.53
SW-846 8260	71-43-2	Benzene	9.91
SW-846 8270	56-55-3	Benzo(a)anthracene	14.17
SW-846 8270	50-32-8	Benzo(a)pyrene	14.19
SW-846 8270	205-99-2	Benzo(b)fluoranthene	19.67
SW-846 8270	207-08-9	Benzo(k)fluoranthene	17.93
SW-846 8270	65-85-0	Benzoic Acid	200.00
SW-846 8270	100-51-6	Benzyl Alcohol	28.57
SW-846 6010	7440-41-7	Beryllium	6.97
SW-846 8270	111-44-4	bis(2-Chloroethyl)ether	16.13
SW-846 8270	39638-32-9	bis(2-Chloroisopropyl)ether	16.39
SW-846 8270	117-81-7	bis(2-Ethylhexyl)phthalate	21.54
SW-846 8260	75-27-4	Bromodichloromethane	13.54
SW-846 8260	75-25-2	Bromoform	17.11
SW-846 8260	74-83-9	Bromomethane	23.26
SW-846 8270	85-68-7	Butylbenzylphthalate	16.67
SW-846 6010	7440-43-9	Cadmium	6.21
SW-846 8260	75-15-0	Carbon Disulfide	12.03
SW-846 8260	56-23-5	Carbon Tetrachloride	11.50
SW-846 8260	108-90-7	Chlorobenzene	16.27
SW-846 8260	75-00-3	Chloroethane	22.99
SW-846 8260	67-66-3	Chloroform	12.09
SW-846 8260	74-87-3	Chloromethane	25.58
SW-846 6010	7440-47-3	Chromium	62.91
SW-846 8270	218-01-9	Chrysene	16.95
SW-846 8260	10061-01-5	cis-1,3-Dichloropropene	12.38
SW-846 6010	7440-48-4	Cobalt	8.19
SW-846 6010	7440-50-8	Copper	169.85
SW-846 8270	84-74-2	Di-n-butylphthalate	12.29
SW-846 8270	117-84-0	Di-n-octylphthalate	12.50
SW-846 8270	53-70-3	Dibenz(a,h)anthracene	16.44
SW-846 8270	132-64-9	Dibenzofuran	15.19
SW-846 8260	124-48-1	Dibromochloromethane	13.43
SW-846 8270	84-66-2	Diethylphthalate	15.87
SW-846 8270	131-11-3	Dimethylphthalate	15.63
SW-846 8260	100-41-4	Ethylbenzene	15.62

Test Method	CAS No.	Analyte	Max. of RPD
SW-846 8270	206-44-0	Fluoranthene	80.00
SW-846 8270	86-73-7	Fluorene	14.57
SW-846 8270	118-74-1	Hexachlorobenzene	23.33
SW-846 8260	87-68-3	Hexachlorobutadiene	30.22
SW-846 8270	87-68-3	Hexachlorobutadiene	15.63
SW-846 8270	77-47-4	Hexachlorocyclopentadiene	18.67
SW-846 8270	67-72-1	Hexachloroethane	14.17
SW-846 8270	193-39-5	Indeno(1,2,3-cd)pyrene	15.17
SW-846 6010	7439-89-6	Iron	200.00
SW-846 8270	78-59-1	Isophorone	11.76
SW-846 6010	7439-92-1	Lead	33.33
SW-846 6010	7439-93-2	Lithium	4.88
SW-846 6010	7439-96-5	Manganese	112.42
SW-846 6010	7439-97-6	Mercury	28.57
SW-846 8260	75-09-2	Methylene chloride	12.50
SW-846 6010	7439-98-7	Molybdenum	3.51
SW-846 8270	86-30-6	n-Nitrosodiphenylamine	16.54
SW-846 8270	621-64-7	n-Nitrosodipropylamine	15.15
SW-846 8260	91-20-3	Naphthalene	25.78
SW-846 8270	91-20-3	Naphthalene	14.17
SW-846 6010	7440-02-0	Nickel	12.12
SW-846 8270	98-95-3	Nitrobenzene	16.54
SW-846 8270	87-86-5	Pentachlorophenol	200.00
SW-846 8270	108-95-2	Phenol	21.54
SW-846 8270	129-00-0	Pyrene	48.18
SW-846 6010	7782-49-2	Selenium	3.51
SW-846 6010	7440-22-4	Silver	4.49
SW-846 6010	7440-24-6	Strontium	27.45
SW-846 8260	100-42-5	Styrene	18.86
SW-846 8260	127-18-4	Tetrachloroethene	12.87
SW-846 6010	7440-31-5	Tin	4.71
SW-846 8260	108-88-3	Toluene	13.97
SW-846 8260	10061-02-6	trans-1,3-Dichloropropene	14.49
SW-846 8260	79-01-6	Trichloroethene	13.70
SW-846 6010	11-09-6	Uranium, Total	6.90
SW-846 6010	7440-62-2	Vanadium	10.31
SW-846 8260	75-01-4	Vinyl chloride	23.81
SW-846 8260	1330-20-7	Xylene	17.18
SW-846 6010	7440-66-6	Zinc	133.73

Field Duplicate Evaluation

Field duplicate results reflect sampling precision, or overall repeatability of the sampling process. The frequency of field duplicate collection should exceed 1 field duplicate per 20 real samples, or 5 percent. Table 16 indicates that field duplicate frequencies were adequate except

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for gamma spectroscopy and VOCs, which had frequencies of 2.78 and 3.03 percent, respectively. However, all gamma spectroscopy and VOC results were less than WRW ALs.

Table 16
Field Duplicate Sample Frequency Summary

Test Method	Real	Duplicate	% Duplicate Samples
Alpha spectroscopy	19	4	21.05%
Gamma spectroscopy	108	3	2.78%
SW-846 6010	39	2	5.13%
SW-846 8082	4	1	25.00%
SW-846 8260	33	1	3.03%
SW-846 8270	31	2	6.45%
SW8440 Prep SW3560(9)	1	0	0.00%

The RPD values indicate how much variation exists in the field duplicate analyses. EPA data validation guidelines state that "there are no required review criteria for field duplicate analyses comparability" (EPA 1994b). For the DQA, the highest RPD values (Table 17) were reviewed. For this project, project decisions were not impacted because the decision whether to remediate is based on not only an AL comparison but also the results of the SSRS.

Table 17
RPD Evaluation Summary

Lab Code	Test Method	Analyte	Max. of Result RPD
ESTLDEN	SW-846 8270	Acenaphthene	60.24
ESTLDEN	SW-846 6010	Aluminum	24.00
ESTLDEN	SW-846 8270	Anthracene	54.21
ESTLDEN	SW-846 8082	Aroclor-1016	80.65
ESTLDEN	SW-846 8082	Aroclor-1254	23.01
ESTLDEN	SW-846 6010	Arsenic	2.38
ESTLDEN	SW-846 6010	Barium	43.90
ESTLDEN	SW-846 8270	Benzo(a)anthracene	65.19
ESTLDEN	SW-846 8270	Benzo(a)pyrene	75.86
ESTLDEN	SW-846 8270	Benzo(b)fluoranthene	74.81
ESTLDEN	SW-846 6010	Beryllium	31.88
ESTLDEN	SW-846 6010	Chromium	36.07
ESTLDEN	SW-846 8270	Chrysene	66.67
ESTLDEN	SW-846 6010	Cobalt	45.61
ESTLDEN	SW-846 6010	Copper	14.29
ESTLDEN	SW-846 8270	Fluoranthene	63.64
ESTLDEN	SW-846 8270	Fluorene	54.05
ESTLDEN	SW-846 8270	Indeno(1,2,3-cd)pyrene	81.82
ESTLDEN	SW-846 6010	Iron	23.60
ESTLDEN	SW-846 6010	Lead	12.50
ESTLDEN	SW-846 6010	Lithium	10.96
ESTLDEN	SW-846 6010	Manganese	92.68

Lab Code	Test Method	Analyte	Max. of Result RPD
ESTLDEN	SW-846 6010	Mercury	112.50
ESTLDEN	SW-846 6010	Nickel	50.00
ESTLDEN	SW-846 8270	Pyrene	63.64
ESTLDEN	SW-846 6010	Strontium	6.90
GEL	ALPHA SPEC	Uranium-234	12.42
GEL	ALPHA SPEC	Uranium-238	13.62
ESTLDEN	SW-846 6010	Vanadium	7.14
ESTLDEN	SW-846 6010	Zinc	1.57

12.2.3 Completeness

Based on original project DQOs, a minimum of 25 percent of ER Program analytical (and radiological) results must be formally verified and validated. Of that percentage, no more than 10 percent of the results may be rejected, which ensures that analytical laboratory practices are consistent with quality requirements. Table 18 lists the number and percentage of validated records (codes without "1"), the number and percentage of verified records (codes with "1"), and the percentage of rejected records for each analyte group for this project. Several SVOC records were rejected. For this project, the percentages of radionuclide and PCB analyses validated were below Program requirements; however, the validation percentage for the project was 25.6 percent, and the ER Program V&V goal of 25 percent is being met.

Table 18
Validation and Verification Summary

Validation Qualifier Code	Total of CAS Number	Alpha Spectroscopy	Gamma Spectroscopy	SW-846 6010	SW-846 8082	SW-846 8260	SW-846 8270
No V&V	203	10	66	23	0	0	104
1	56	0	3	0	0	0	53
J	79	0	0	77	0	2	0
J1	131	0	0	121	0	10	0
JB	5	0	0	0	0	5	0
JB1	5	0	0	0	0	4	1
R1	14	0	0	0	0	0	14
UJ	18	0	0	10	0	8	0
UJ1	27	0	0	21	0	6	0
V	987	5	42	143	0	381	416
V1	2726	80	213	501	28	880	1024
Total	4251	95	324	896	28	1296	1612
Validated	1089	5	42	230	0	396	416
% Validated	25.62%	5.26%	12.96%	25.67%	0.00%	30.56%	25.81%
Verified	2959	80	216	643	28	900	1092
% Verified	69.61%	84.21%	66.67%	71.76%	100.00%	69.44%	67.74%
Rejected	14	0	0	0	0	0	14
% Rejected	0.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.87%
Validated - J, V, JB, UJ							
Verified - 1 J1, V1, JB1, UJ1							

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12.2.4 Sensitivity

RLs, in units of $\mu\text{g/kg}$ for organics, mg/kg for metals and TPH, and pCi/g for radionuclides, were compared with RFCA WRW ALs and the TPH standard. Adequate sensitivities of analytical methods were attained for all COCs that affected remediation decisions. "Adequate" sensitivity is defined as an RL less than an analyte's associated AL, typically less than one-half the AL.

12.3 Summary of Data Quality

RPDs greater than 35 percent indicate the sampling precision limits of some analytes have been exceeded. In addition, the validation percentages for some analytical methods are below 25 percent; however, the validation percentage for the project was 25.6 percent, and the ER Program V&V goal of 25 percent is being met. The rejection rate was less than 1 percent. Data collected and used for IHSS Group 800-3 are adequate for decision making.

13.0 CONCLUSIONS

Results of the accelerated action justify NFAA for IHSS Group 800-3. NFAA justification is based on the following:

- NFAA is justified based on surface and subsurface soil data. All surface and subsurface contaminant concentrations in soil concentrations are less than WRW ALs.
- NFAA is justified based on the SSRS. Subsurface soil in the area is not subject to significant erosion, and all subsurface soil contaminant concentrations are less than WRW ALs.
- NFAA is justified by the stewardship evaluation.

14.0 REFERENCES

CDPHE, 2005, Letter Approval of ER RSOP Notification #05-04, IHSS Group 800-3, Rocky Flats Environmental Technology Site, Golden, Colorado, February 1.

DOE, 1992-2004, Historical Release Reports for the Rocky Flats Plant, Golden, Colorado.

DOE, 1999, Order 414.1A, Quality Assurance.

DOE, 2000, Industrial Area Data Summary Report, Rocky Flats Environmental Technology Site, Golden, Colorado, September.

DOE, 2001, Industrial Area Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

DOE, 2003a, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation Modification 1, Rocky Flats Environmental Technology Site, Golden, Colorado, September.

DOE, 2003b, RFETS Automated Surface-Water Monitoring Report, Water Year 2002, Rocky Flats Environmental Technology Site, Golden, Colorado, November.

DOE, 2003c, Closure Description Document for Partial Closure of Unit 374.3; 700 and 800 Area Process Waste Transfer System, Rocky Flats Environmental Technology Site, Golden, Colorado, January.

DOE, 2004a, Industrial Area and Buffer Zone Sampling and Analysis Plan, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

DOE, 2004b, Industrial Area Sampling and Analysis Plan Addendum #IA-04-06, IHSS Group 800-3, Rocky Flats Environmental Technology Site, Golden, Colorado, January.

DOE, 2004c, No Further Accelerated Action Justification for Polychlorinated Biphenyl (PCB) Potential Areas of Concern (PAC) Sites, Rocky Flats Environmental Technology Site, Golden, Colorado, April.

DOE, 2004d, Draft Interim Measure/Interim Remedial Action for Groundwater at the Rocky Flats Environmental Technology Site, Rocky Flats Environmental Technology Site, Golden, Colorado, December.

DOE, 2005, Environmental Restoration RFCA Standard Operating Protocol for Routine Soil Remediation Notification #05-04, Rocky Flats Environmental Technology Site, Golden, Colorado, January.

DOE, CDPHE and EPA, 2003, Modifications to the Rocky Flats Cleanup Agreement Attachment, U.S. Department of Energy, Colorado Department of Public Health and Environment, and U.S. Environmental Protection Agency, Rocky Flats Environmental Technology Site, Golden, Colorado, June.

EPA, 1994a, Guidance for the Data Quality Objective Process, QA/G-4.

EPA, 1994b, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, 540/R-94/012.

EPA, 1994c, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, 540/R-94/013.

EPA, 1998, Guidance for the Data Quality Assessment Process; Practical Methods for Data Analysis, QA/G-9.

K-H, 2002a, General Guidelines for Data Verification and Validation, DA-GR01-v2, December.

K-H, 2002b, V&V Guidelines for Isotopic Determinations by Alpha Spectrometry, DA-RC01-v2.

K-H, 2002c, V&V Guidelines for Volatile Organics, DA-SS01-v2.

K-H, 2002d, V&V Guidelines for Semivolatile Organics, DA-SS02-v3.

K-H, 2002e, V&V Guidelines for Metals, DA-SS05-v1.

Lockheed-Martin, 1997, Evaluation of Radiochemical Data Usability, ES/ER/MS-5.

**APPENDIX A
PROJECT CORRESPONDENCE**

ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE ER REGULATORY CONTACT RECORD

Date/Time: April 7, 2005, 2:30

Site Contact(s): Annette Primrose Mike Swartz Karen Wiemelt
Phone: 966-4385 966-5107 966-9883

Regulatory Contact: David Kruchek
Phone: 303 692-3328

Agency: CDPHE

Purpose of Contact: B883 Excavated Area Backfill

Discussion

The slab was removed from B883 area along with a minimum of one foot of gravel that underlaid the slab. There was no observed staining on the slab or in the gravel. Samples were collected as possible from the soil where exposed in the area underneath the B883 slab. In addition, samples were collected of the water in the excavation, and also the mud where present with the gravel. All results were below action levels, however low levels of VOCs were present along the east side of the building and in some basement samples, and a historic gasoline spill was identified underneath asphalt. The gasoline spill area was also below action levels. Uranium was present slightly above background, but well below action levels.

Footing drains and foundation drains outside of the building were removed. All OPWL were removed. All NPWL except a small section was removed. This will be removed prior to backfill in this area and as part of the 000-4 NPWL project.

The southwest corner of the tunnel from 883 to 881 was left in-place for support. A few other structures were left in place because of the depth (16 feet or greater) and the thickness of the remaining concrete (4 feet plus). However, all contaminated structures were removed as indicated by in-process radiological survey and corroborated by the fact that neither demolition equipment nor personnel were found to be contaminated during the project except in one instance at the Loewy Rolling Mill east support. This area was removed during demolition. Structures remaining in-place will be GPS surveyed prior to backfill.

Most of the column supports that were present under the slab are left in place, but the columns were removed. The pit under the 2,000 ton press was removed, but the supporting pad under the pit remains in-place. This feature is about 4 foot thick and is sitting on bedrock at a depth of 18 feet and greater.

In addition, the supporting pad under the Loewy Rolling Mill was left in place where present deeper than 16 feet below grade. The floor slab that was present immediately above the pad was removed and appropriately dispositioned.

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Based on this information, backfill will be allowed at risk everywhere except at the NPWL. Backfill at the NPWL will take place after NPWL removal is completed. Gravel removed from the excavation will be used as backfill material.

Contact Record Prepared By: Annette Primrose

Required Distribution:

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H. Ainscough, CDPHE
S. Bell, DOE-RFPO
J. Berardini, K-H
B. Birk, DOE-RFPO
L. Brooks, K-H ESS
L. Butler, K-H RISS
G. Carnival, K-H RISS
N. Castaneda, DOE-RFPO
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G. Kelly, K-H RISS

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ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE ER REGULATORY CONTACT RECORD

Date/Time: 3-17-05, 11:30

Site Contact(s): Annette Primrose
Phone: 966-4385

Regulatory Contact: David Kruchek
Phone: 303 692-3328

Agency: CDPHE

Purpose of Contact: B883 Sampling Requirements

Discussion

Because of the large amount of one-inch and smaller washed gravel underneath much of B883, the Sampling and Analysis Plan Addendum #IA-04-06 for IHSS Group 800-3 will not be followed as written. However, the intent of the SAP will be followed as described below.

Samples will be collected underneath the process waste line locations, pits and other deep features where soil is exposed or where there is evidence that the gravel layer is relatively thin. Samples will not be collected if there is evidence of a thick gravel layer at these locations.

The rationale for collection or non-collection at the sample locations, as previously specified in the approved SAP, will be provided in the Closeout Report for IHSS Group 800-3. This rationale will include the field observations regarding the evidence, or lack of evidence, that releases have occurred (staining, radiological information, etc.).

If there is evidence of radiological contamination of the gravel or visible staining, then this material will be disposed of as waste. Radiological surveys of the process waste lines and surrounding materials will be taken prior to removal. Elevated activities above background will result in further evaluation, gravel removal and/or sampling.

Contact Record Prepared By: Annette Primrose

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N. Elzinga, RISS URS
T. Hanson, RISS URS

ENCLOSURE

**COMPACT DISC
ACCELERATED ACTION DATA**

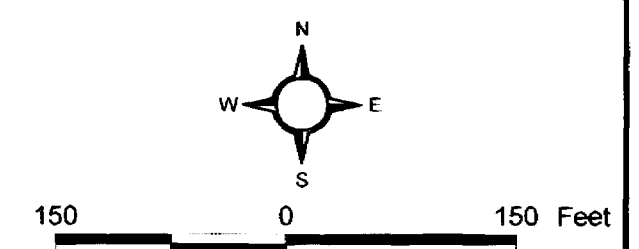
Figure 4
IHSS Group 800-3
Sampling Results Greater
than Background Means
Plus Two Standard Deviations
or Reporting Limits,
Outside UBC883, North

KEY

- Greater than background means or RLs, less than WRW ALs
- Less than background means or RLs

- NPWL
- OPWL
- Valve vault
- PAC
- Tank
- UBC
- Building
- Demolished
- Standing

DRAFT



Scale 1: 1500

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Date: 05.09.05

Prepared by:



Prepared for:



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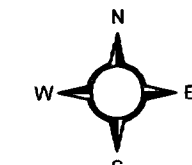
Figure 6
IHSS Group 800-3
Sampling Results Greater
than Background Means
Plus Two Standard Deviations
or Reporting Limits,
Outside UBC 883, Southeast

KEY

- Greater than background means or RLs, less than WRW ALs
- Less than background means or RLs

- NPWL
- OPWL
- Valve vault
- PAC
- Tank
- UBC
- Building
- Demolished
- Standing

DRAFT



100 0 100 Feet

Scale 1: 1300

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Date: 05.09.05

Prepared by:



Prepared for:



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IA-A-002632

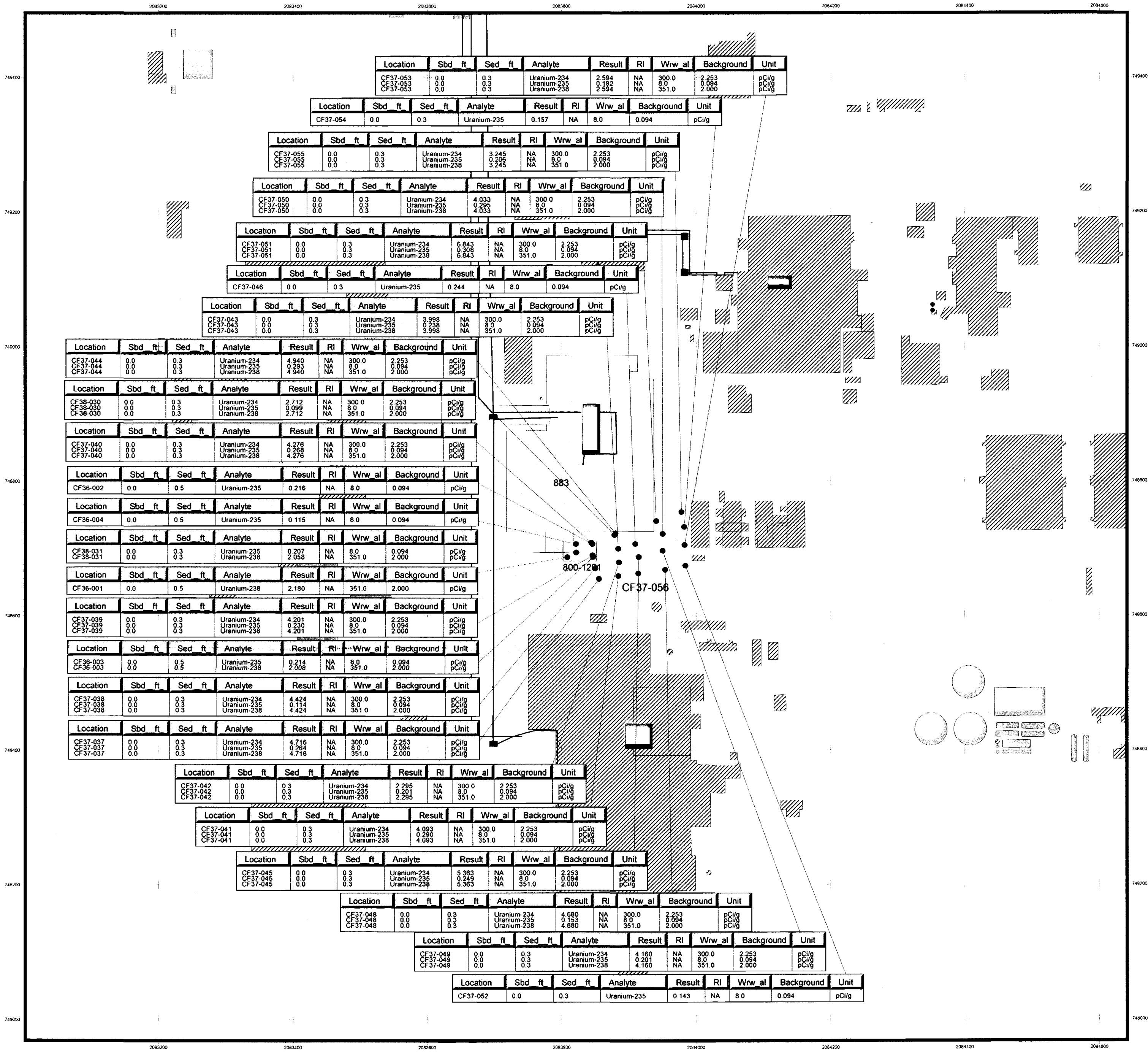


Figure 2
IHSS Group 800-3
Sampling Results Greater
than Background Means
Plus Two Standard Deviations
or Reporting Limits,
UBC 883, North

KEY

- Greater than background means or RLs, less than WRW ALs
- Less than background means or RLs

NPWL
OPWL
Valve vault
PAC
Tank
UBC
Building
Demolished
Standing

DRAFT

N
W E
S

150 0 150 Feet

Scale 1: 1400

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD 27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Date: 05.09.05

Prepared by:

Prepared for:

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